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U.S. ARMY CORPS OF ENGINEERS  
ROCK ISLAND DISTRICT  
ROCK ISLAND, ILLINOIS 61021

UPPER MISSISSIPPI RIVER  
RIVER MILE 349, POOL 20

Buzzard Island Dredged Material  
Beneficial Use Access Road

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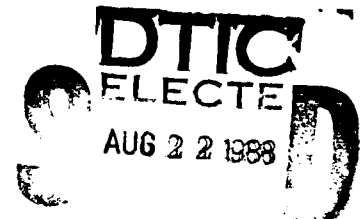
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UPPER MISSISSIPPI RIVER  
RIVER MILE 349, POOL 20

BUZZARD ISLAND DREDGED MATERIAL BENEFICIAL USE  
ACCESS ROAD

I. INTRODUCTION

A. Project Authorization. Authority for the proposed project is given in the River and Harbor Act of 3, July 1930, which authorized the Upper Mississippi River Nine-Foot Channel Navigation project and its maintenance. The proposed project would be funded and constructed under this authorization.

B. Subject and Purpose.

1. The Buzzard Island Dredged Material Placement Site is a historical placement site on the Mississippi River in the vicinity of River Mile 349. The placement site is located in the N 1/2 of Sec. 24, T. 3N, R. 6W, Lewis County, Missouri, approximately 7 miles north of Canton, Missouri. Currently, the stockpile contains approximately 700,000 cubic yards of dredged material and is beginning to encroach woodlands at both its upstream and downstream limits. In order to continue use of the Buzzard Island Dredged Material Placement Site, interagency recommendations have been made to open the site for beneficial use in order to prevent further growth of the stockpile.

2. The purpose of this report is to present a detailed proposal for planning, engineering, and sufficient construction details to allow real estate acquisition, final design, and construction to proceed.

C. Project Scope. This project involves constructing 4,000 feet of two-lane crushed stone access road and turn around. See Plates 1-4. The purpose of this road is to provide potential beneficial users access to the existing material at the Buzzard Island Dredged Material Placement Site.

II. DREDGING HISTORY

A. In the vicinity of Buzzard Island, the Mississippi River is subject to excessive sediment accumulation. A study conducted by the University of Iowa Institute of Hydraulic Research in 1977 revealed that the Mississippi River flow in the Buzzard Island reach bifurcates. In excess of 25 percent of the river flow passes through a secondary channel between Huff Island and Hunt Island. The study concluded that this flow bifurcation and the resulting velocity reduction downstream are largely responsible for the chronic shoaling in the Buzzard Island reach.

B. In order to maintain a nine-foot channel for navigation in this reach, recurrent dredging has been required. See Plate 1 for approximate dredging limits. Table 1 shows the year, quantity, and location of the Buzzard Island dredging requirements from 1959 to 1986. Since 1980, dredging has been required nearly every year at an average rate of 71,604 cubic yards per year.

TABLE 1  
BUZZARD ISLAND DREDGING HISTORY  
R.M. 348.8-349.6

<u>Year</u>	<u>Dredging</u>	<u>River</u>
<u>Dredged</u>	<u>Amount (yd3)</u>	<u>Mile</u>
1959	66,000	349.0
1960	114,700	349.6
1962	140,845	349.0
1965	33,700	349.0
1966	20,700	349.0
1968	30,093	348.8
1969	86,610	349.4
1970	36,389	348.8
1973	52,907	349.5
1974	143,542	349.4
1976	68,075	349.0
1979	65,254	349.0
1980	68,996	349.0
1982	147,902	349.4
1983	42,122	349.3
1984	67,631	349.3
1985	82,013	349.0
1986	59,000	349.0
1987	<u>105,169</u>	349.0
	1,431,648	

C. Since 1974, dredged material in this reach of the river has been pumped to the southern tip of Buzzard Island, into the main channel thalweg, and to the Buzzard Island Dredged Material Placement Site. The majority of the material has been placed at the Buzzard Island Dredged Material Placement Site. This site has grown to cover approximately 20 acres and has a height in some areas over 30 feet. The approximate volume of the stockpile is 700,000 cubic yards. The Buzzard Island Dredged Material Placement Site is currently encroaching woodlands at both its upstream and downstream limits and Gregory Drainage District Levee on the landside.

D. In 1976, the Great River Environmental Action team (GREAT) was authorized by Congress in the Water Resources Development Act of 1976. The purpose of GREAT was to develop a total river resource management plan for the Upper Mississippi River (UMR) incorporating total river resource requirements including, but not limited to, navigation, the effects of increased barge traffic, fish and wildlife, recreation, watershed management, and water quality inter-agency disputes relative to Corps of Engineers (COE) channel maintenance activities. Maintenance dredging and placement activities were studied by GREAT in detail. In 1980, GREAT II published a Channel Maintenance Handbook for the (UMR). This handbook, which represents several years of effort in site selection, evaluation, and mapping, is a guideline for future maintenance activities of the UMR navigation project in the Rock Island District.

E. Dredged material placement site planning recommendations for the Buzzard Island area were made by GREAT II. These site planning recommendations were further investigated and refined in 1987 by an On-Site Inspection Team (OSIT) composed of representatives from the Fish and Wildlife Service, Missouri Department of Conservation, Illinois Department of Conservation, and the Corps of Engineers.

F. The recommendation of GREAT II and OSIT was to continue the use of the Buzzard Island Placement Site as the primary placement site for this reach of the river only under the provision that the dredged material be made accessible to the public for beneficial use. The intention of providing public access was to allow further use of the site without impacting additional areas. This would be accomplished by allowing beneficial users to take the dredged material off site for their own use. See Appendix A.

G. In June 1986, a survey form was sent to potential dredged material users in the vicinity of Buzzard Island (see Correspondence Appendix). Follow-up calls were made to the survey respondents in September 1987 to discuss and confirm projected usage rates. The survey revealed that if a suitable haul road were built to access the Buzzard Island Dredged Material Placement Site, projected removal of material for beneficial uses would total approximately 51,040 cubic yards per year. See Table 2.

TABLE 2  
POTENTIAL USER SURVEY

<u>POTENTIAL USER</u>	<u>LOCATION</u>	<u>AMOUNT, CY/Year</u>
Brink Construction Co.	Quincy, IL	25,000
Iowa Gateway Terminal/ Shippers Transfer, Inc.	Keokuk, IA	15,056
Hickey Contracting Co.	Keokuk, IA	3,613
Bleigh Construction Co.	Hannibal, MO	3,011
City of Keokuk	Keokuk, IA	1,807
City of Canton	Canton, MO	900
Celotex Corp.	Quincy, IL	750
City of Nauvoo	Nauvoo, IL	241
Lewis County	Monticello, MO	241
Wilcox Township	Warsaw, IL	241
Riverside Township	Quincy, IL	120
Moorman Manufacturing Co.	Quincy, IL	60
		<u>51,040 C.Y.</u>

III. SITE INVESTIGATIONS. Prior to the design of the proposed access road, the following site investigations were conducted.

A. Geotechnical. In May 1987 a total of 5 hand auger borings were taken by CENCR-ED-G personnel along the proposed roadway alignment. Boring logs and locations are shown on Plates 5 and 6. Also, Plate 7 shows boring logs for the construction of the Gregory Drainage District levee. These

borings were taken in May 1959 and April 1963. Typical sections for the Gregory Drainage District levee are shown on Plate 8.

The boring log data reveal that from Sta 0+00R to Sta 11+00R, the roadway is founded on a top stratum of medium to lean clay which is sandy in some areas. The depth of this stratum appears to be 5 feet minimum.

The remainder of the proposed access road, from Sta. 11+00R to Sta. 43+50R, is actually founded on the landside sand berm of the Gregory Drainage District levee. The berm is composed of medium to fine hydraulic sand fill and coarse to fine sand with some traces of gravel. This sand berm appears to be at least 2 feet thick. In areas where the roadway overlies the levee borrow area, the sand layer is as much as 10 feet thick. See Plate 8. The sand berm is founded on an 8 to 18 foot thick strata of lean to medium clay which is underlain by brown fine and fine to medium sand.

Investigations were also made of the material in the stockpile itself. Samples were taken of the stockpile in September 1987. Grain size analyses were run on each of the samples. These tests revealed the stockpile material is brown medium to fine sand. See Plates 9-11.

Also, on 30 September 1985, hydraulic sampling was taken of the river bottom material prior to dredging. The sieve analyses performed on these samples reveal the channel material to be gray brown medium to fine sand. See Plates 12-14.

B. Survey. In June 1987, a centerline traverse with typical cross sections was run for horizontal and vertical control of the proposed roadway.

IV. ALTERNATIVES. In order to open the Buzzard Island Placement Site for beneficial use, several alternatives for access were evaluated.

A. Access Road. Two separate alignments were considered for access to the Buzzard Island Dredged Material Placement Site. See locations on Plate 15.

1. North Alignment (Selected Alternate). For this alignment, the east leg of the proposed road will follow an existing farm road immediately east of the intersection of Shiloh Road and the Chicago, Burlington and Quincy railroad tracks. The south leg will follow the landside toe of the existing Gregory Drainage District Levee. This alternate will require the county to upgrade of the existing Shiloh Road surface west of the railroad tracks as well as increasing the loading capacity of the Shiloh Road bridge.

2. South Alignment. The east leg of the south alignment would follow the Fenway Landing access road. The north leg would then follow the landside toe of the existing Gregory Drainage District Levee. Although the existing county road for the south alignment is in better condition than that for north alignment and no bridge work is required, there are several features which make this alignment less desirable. The county road for the south alignment is outside of the levee district and is often under water during the

spring months, making the road unserviceable during that time. Also, the South Alignment is approximately 1/4 mile longer than the North Alignment.

B. Barge Loading Facility. Another possible method of removing dredged material from the site is by barge loading facility. However, only one potential user indicated interest in transporting dredged material via barges. Also, this potential user indicated a willingness to transport by barge even without the construction of a barge loading facility.

C. No Action. If no action is taken toward opening the Buzzard Island Placement Site for beneficial use, expansion into adjacent wooded areas would be necessary to continue use of this site for dredged material placement. Therefore, it was decided that if no action is taken, no new material would be placed at this site. This would require developing and utilizing a new placement site. Alternative placement sites for the Buzzard Island Dredge Cut were identified and evaluated in conjunction with GREAT II and OSIT recommendations and in coordination with the U.S. Fish and Wildlife Service for the Rock Island District's channel maintenance program. Plates 17 and 18 show and describe the alternative. The following is a discussion of the consequences of using the alternative placements sites in terms of economic, environmental and social impacts.

1. Agricultural fields on the Illinois and Missouri banks. These sites include GREAT sites 20.19, 20.20, 20.21, 20.26, 20.27, 20.28, 20.29, and 20.30. See Plates 17 and 18. The added costs of developing and using these sites would include operational costs of using booster, floating and shore pipeline, and material rehandling. These sites would also require additional berming and diking to prevent return water from flooding adjacent agricultural lands. Use of these sites also require obtaining real estate or easements. The environmental and social impacts associated with using these sites would include greater amounts of suspended solids due to in-water material rehandling as well as the negative effects resulting from clearing and disturbing previously undisturbed sites. The use of these sites could also adversely affect community cohesion, property values, aesthetic values, and noise levels. Farming interests could be affected by both loss of productive agricultural land and disruption of normal farming operations.

2. Beach Nourishment. These sites include GREAT Sites 20.22, 20.23, and 20.24. See Plates 17 and 18. The additional cost associates with the beach nourishment sites are basically the same as those associates with the agricultural sites, namely, the requirements for a booster, extra pipeline, and rehandling. Also, these sites would require easements or land acquisition. Environmentally, these sites may have the potential to adversely affect fishery resources. The present earthen embankment is stable and dredged material placed along the shoreline would tend to fill scour holes which serve as shelter for several fish species.

3. Island Creation. It is also possible to create shallow water habitat by augmenting Huff Island (River Mile 349). From an economic standpoint, this alternative would pose no additional costs for material placement. However, this site would require post placement work and maintenance to encourage vegetation growth and to prevent erosion. Also,

island creation impacts the hydraulic channel characteristics of this reach of the river. Hydraulic studies would need to be performed prior to the implementation of this site. This alternative would provide favorable environmental and social impacts. However, this site will have a limited life and would not provide a long term solution to the problem of dredged material placement at Buzzard Island.

4. Thalweg Placement. There is also a thalweg placement site at River Mile 348. See Plate 17. Because this site can be out of reach of the present dredge equipment, it will incur the extra costs associated with using a booster, extra pipeline, and material rehandling. There is also an added requirement for extra surveys at the time of placement to monitor sand movement. The use of thalweg placement is also dependent on seasonal hydraulic conditions. Therefore thalweg placement cannot be depended on as a long term dredged material placement solution.

V. SELECTED PLAN. The selected plan is the construction of the north access road. The projected rate of dredged material removal via a haul road is 51,119 cubic yards per year. Although this is somewhat less than the recent average dredging rate of 66,800 cubic yards per year, there are several reasons for recommending the construction of an access road to the Buzzard Island Dredged Material Placement Site.

A. Permanence. By allowing haulers to take material, the dredge material will be permanently removed from the flood plain and will not pose future problems.

B. Future Channel Improvements. In the vicinity of the Buzzard Island dredge cut, the Rock Island District is planning to repair existing wing and closing dikes as well as construct new ones. See Plate 16. Work began in 1987 and is scheduled to continue through 1988. These structures will constrict the river flow into a narrower channel, thereby creating greater water velocity through this the navigation channel. In the Hydraulic Institute study referenced in Paragraph II.A, it was concluded that closure of the side channel between Huff and Hunt Islands would increase the flow velocity in the main channel by approximately 25 percent. According to commercial sediment-discharge formulas, this would roughly double the sediment-transport capacity of the reach. Thus the proposed repair of the closing dike between Huff and Hunt Islands should greatly decrease the need for dredging. Overall, these channel improvements should decrease the required dredging to a rate less than the projected dredged material usage. These channel improvements along with the new access road should ultimately result in a net loss of material at the Buzzard Island Dredged Material Placement Site.

VI. DESIGN AND CONSTRUCTION CONSIDERATIONS. The plan, profile, and typical sections for the proposed access road are presented in Plates 2-4. The following are considerations relevant to the development of these design drawings.

A. Existing levee. The access road was designed to minimize the impact on the existing Gregory Drainage District Levee in accordance with EM 1110-2-

1913 "Design and Construction of Levees". The proposed access road will be provided with adequate crushed stone surfacing and filter fabric stabilization to maintain the integrity of the sand berm on which it is founded. The levee side approach ramp grade of 6.8% is less than the maximum allowable 10%. See Plate 3. Both the approach ramp and turn around have adequate surfacing to prevent detrimental effects to the levee during wet weather.

B. Geometric design. Geometrics, including horizontal alignment, vertical alignment and cross sections for the proposed access road are based on the AASHTO 1984 design criteria for a resource development road. The design speed is 20 miles per hour. Selection of a design speed lower than the AASHTO suggested minimum of 40 mph was necessary to minimize grading and right-of-way requirements. Due to the short length of roadway and low traffic volume, this selection appears reasonable. Warning signs should be placed in accordance with the Federal Highway Administration Manual on Uniform Traffic Control Devices.

C. Drainage. The runoff from the proposed road surface will be carried by V-shaped ditches on both sides of the roadway. The ditch side slopes are 1 vertical on 3 horizontal. From Station 0+00R to Sta 12+00R, the ditch grade parallels the road grade and carries run-off back to the pond at Sta 3+00R to Sta. 4+00R. From Sta. 12+00 to Sta. 35+00 the ditches are flat and founded on fine to medium sand. The approximate coefficient of permeability for fine to medium sand is 160 inches per hour. Therefore, runoff that flows into these ditches will percolate into the sand. A new 24" CMP equalizing tube will be installed at the pond crossing at Sta. 3+00R. This pipe will allow water levels on both sides of the access road to equalize. The pipe was sized to allow easy maintenance.

D. Surfacing. Due to lower expected traffic volumes, the AASHTO pavement type for the proposed access road is "low-type". Crushed stone surfacing is suitable for low-type pavement requirements. The quality and gradation of the crushed rock surfacing shall meet the requirements for crushed stone as described in Section 1006, 'Aggregate for Surfacing of the 1986 Missouri Standard Specifications for Highway Construction.

E. Filter Fabric Stabilization. A filter fabric will be placed between the granular surfacing and the underlying sand fill as shown in Plate 4. The fabric will serve as a separator to prevent the crushed stone from migrating into the sand fill. The fabric will be strong enough to withstand the loading from heavy equipment and also will be permeable enough to preserve the integrity of the existing levee sand berm.

## VII REAL ESTATE REQUIREMENTS

A. Drainage District. On 16 July 1986, a meeting was held between Corps of Engineers personnel and the Gregory Drainage District Trustees to discuss dredged material for the Buzzard Island Dredged Material Placement Site. See Appendix A. The position of the District Trustees in regard to the proposed project is that the Gregory Drainage District will cooperate with the Corps of Engineers and consent to the sand removal operation provided that the Gregory Drainage District Board of Directors receives assurances from the U.S. Army

Corps of Engineers that the Corps of Engineers will assume all responsibility in connection with the sand removal, including responsibility for any damages that may occur, and responsibility for maintenance and repair of any damage that may occur as a result of the sand removal operation. In addition, the Gregory Drainage District requested an assurance from the Corps of Engineers that the Corps will be responsible for obtaining all necessary easements, right-of-way and permits to engage in the sand removal operation.

B. County. Correspondence has also taken place Mr. Peter Atkins, Lewis County Engineer. See Appendix A. It is verbally understood that the County will upgrade Shiloh Road from U.S. Highway 61 to immediately west of the Burlington Northern Railroad tracks. This improvement would include upgrading an existing bridge to a H20 loading a capacity. The county would continue to maintain this section of Shiloh Road, having a surface of crushed stone, 24-feet in width with no shoulders.

C. Landowners. Necessary right-of-way and construction easements for the access road will be acquired from adjacent landowners. See Plates 2 and 3.

D. Railroad. An easement from the Burlington Northern Railroad of a railroad crossing at Sta 0+00R of the proposed haul road is required. Coordination with the railroad has been initiated. See Appendix A.

VIII. COST ESTIMATE. The following is the estimated cost associated with the construction of the proposed access road. These costs include contractor's overhead and profit.

TABLE 3  
CONSTRUCTION COST ESTIMATE  
(June 1987 price level)

<u>Item</u>	<u>Unit</u>	<u>Quantity</u>	<u>Unit Price</u>	<u>Total Cost</u>
Grading	CY	2600	\$ 4.00	\$10,400
Prepare Subgrade	SY	3445	0.50	1,722
Install Stabilization Fabric	SY	9000	1.66	14,940
6" Crushed Stone Surfacing	TON	2800	14.00	39,200
Remove Existing Culverts	LF	40	5.00	200
Install 24" C.M.P. with Flared End Sections	LF	28	35.00	980
Improve Railroad Crossing	LS	1	20.000	<u>20,000</u>
				\$87,442
15% Contingencies				<u>13,158</u>
Total Construction Cost				<u>\$100,600</u>
Real Estate Costs				12,000
Supervision and Administration				6,700
Engineering and Design				<u>7,500</u>
Total Project Construction Cost				\$126,800

IX. OPERATION AND MAINTENANCE. Operation and maintenance requirements at the Buzzard Island Dredged Material Placement Site include loading/hauling operations, facility maintenance, and security.

A. Loading and Hauling Operations. The loading and hauling operation at the Buzzard Island Placement Site are the responsibility of the individual sand haulers. The haulers would be required to provide their own loading and hauling equipment as well as labor required to remove the dredged material from the site. No assistance in loading and hauling operations will be provided by the Corps of Engineers.

B. Facility Maintenance. Facility maintenance includes the maintenance of the proposed access road and turn around. This will require periodic placement of crushed rock surfacing and light grading. These maintenance activities are the responsibility of the Corps of Engineers. The anticipated annual cost of facility maintenance is \$8,000 per year. For a 20 year design life the total facility maintenance cost is \$120,000.

C. Security. At present there are no special provisions for security at the Buzzard Island Placement Site. If problems with trespassers and vandals arise, they will be addressed with local officials at that time.

X. IMPLEMENTATION SCHEDULE. Construction of the proposed access road is scheduled to begin in late 1988. Lewis County will begin its upgrading work in the summer of 1988 and will be completed prior to the start of the access road construction. The Buzzard Island Placement Site should be open for public access by the summer of 1989.

XI. KNOWN PUBLIC VIEWS AND COMMENTS. Correspondence has been received from the Iowa Limestone Producers Incorporated, The National Stone Association, and Congressman Harold L. Volkmer of Missouri on behalf of the Central Stone Rock Quarries. See Appendix A. The above mentioned entities all express a negative position to the Corps of Engineers policy of making dredged material available to the public free of charge. This policy is perceived as interference with commercial sale of aggregate material. Although this correspondence does not pertain specifically to the Buzzard Island Placement Site, it does indicate potential opposition to this project.

#### RECOMMENDATIONS.

It is recommended to construct the Buzzard Island dredged material beneficial use access road as described in this memorandum at a 100 percent federal cost of \$126,800 and operation and maintenance to be performed using 100 percent federal funds under the authorization of the River and Harbor Act of 3 July 1930.

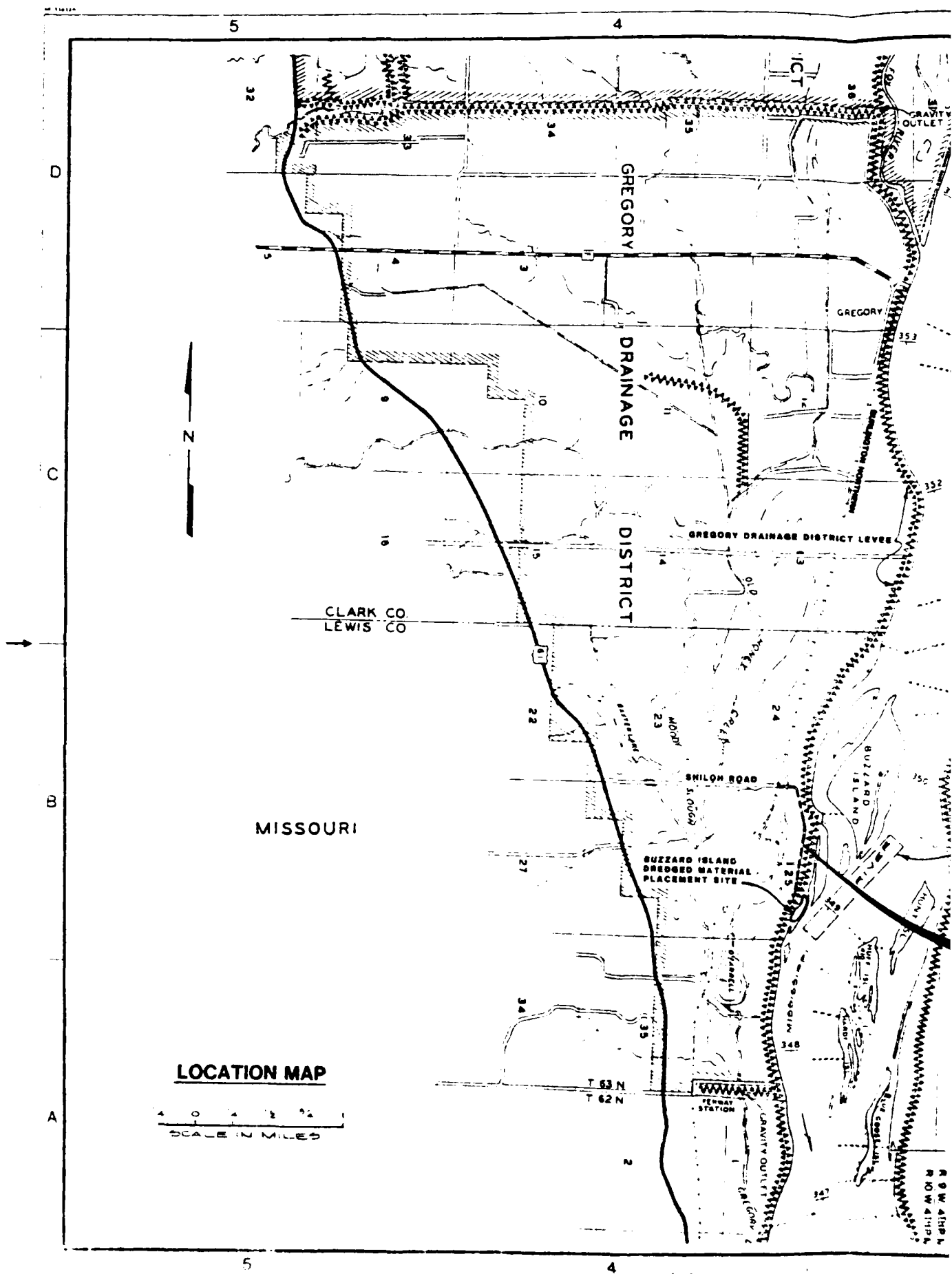
NEIL A. SMART  
Colonel, U.S. Army  
District Engineer

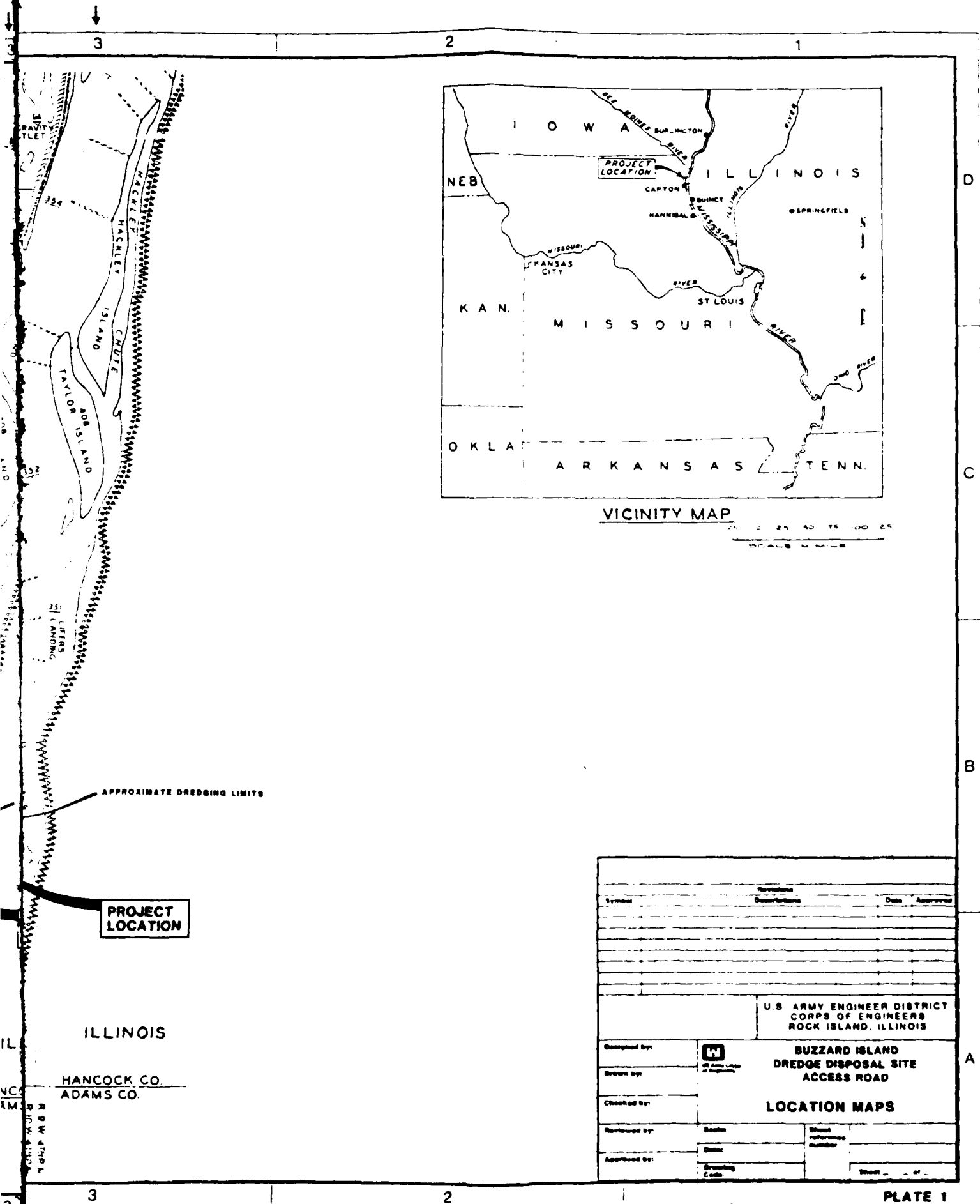
LIST OF REFERENCES.

Great River Environmental Action Team, USA, Great II Channel Maintenance Handbook "Supplement to the Great II Main Report" Upper Mississippi River (Guttenberg, Iowa to Saverton, Missouri), December 1980, 200p.

Nakato, T., and Kennedy, J. F., "Field Study of Sediment Transport Characteristics of the Mississippi River near Fox Island (RM 355-6) and Buzzard Island (RM 349-50), IIHR Report No. 201, Iowa Institute of Hydraulic Research, The University of Iowa, Iowa City, Iowa, April 1977.

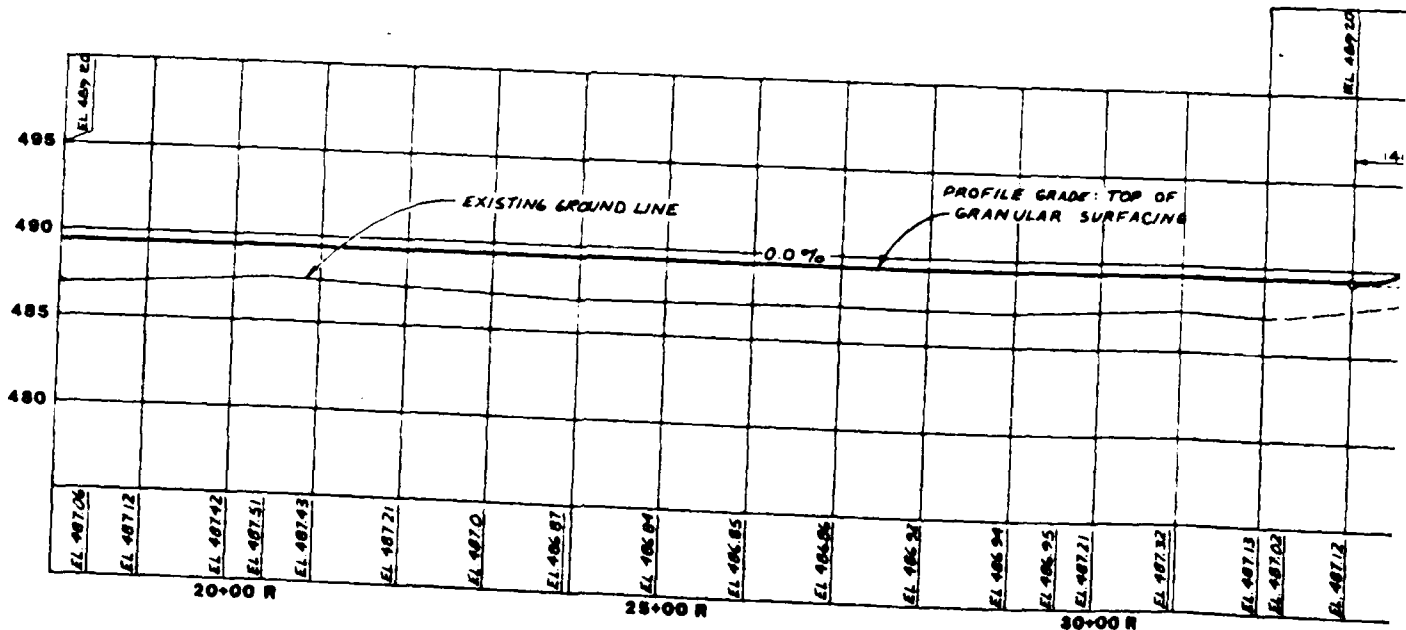
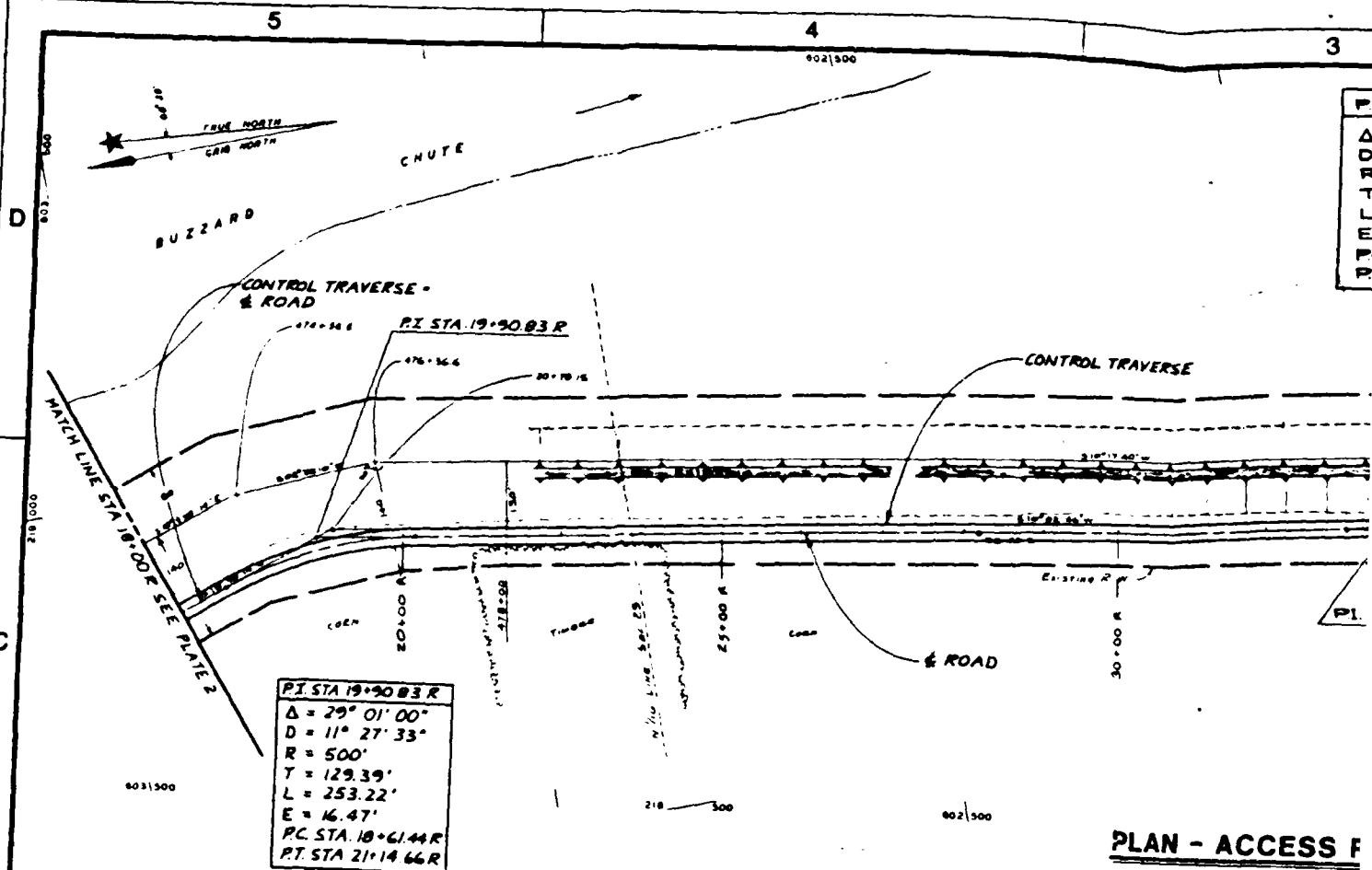
A Policy on Geometric Design of Highways and Streets.  
American Association of State Highway and Transportation Officials,  
Washington, D.C., 1984. 1,087p.





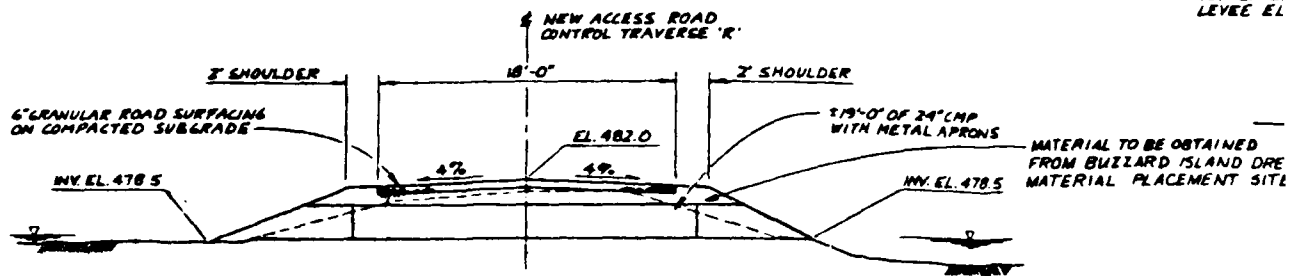




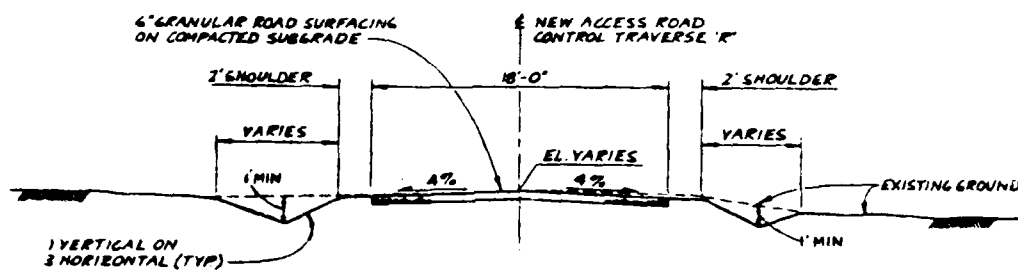


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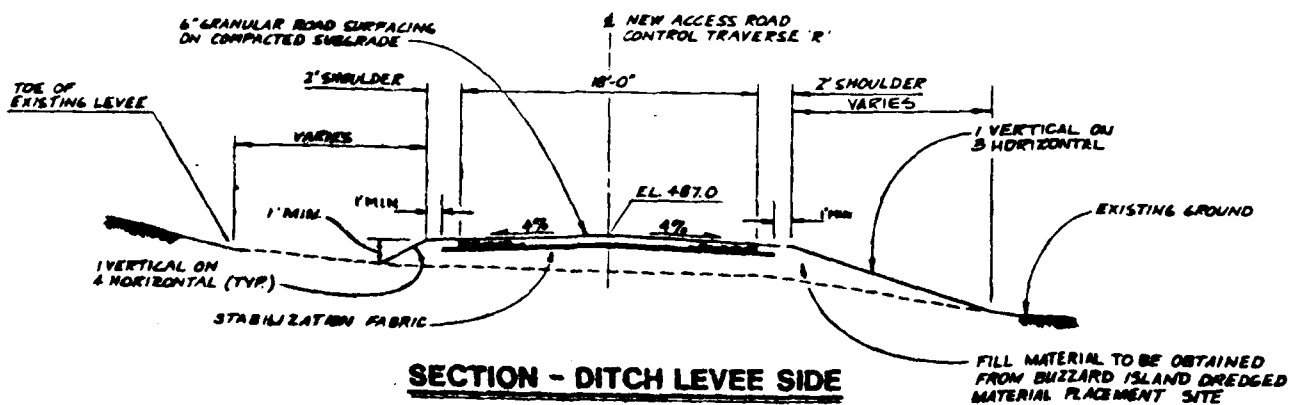




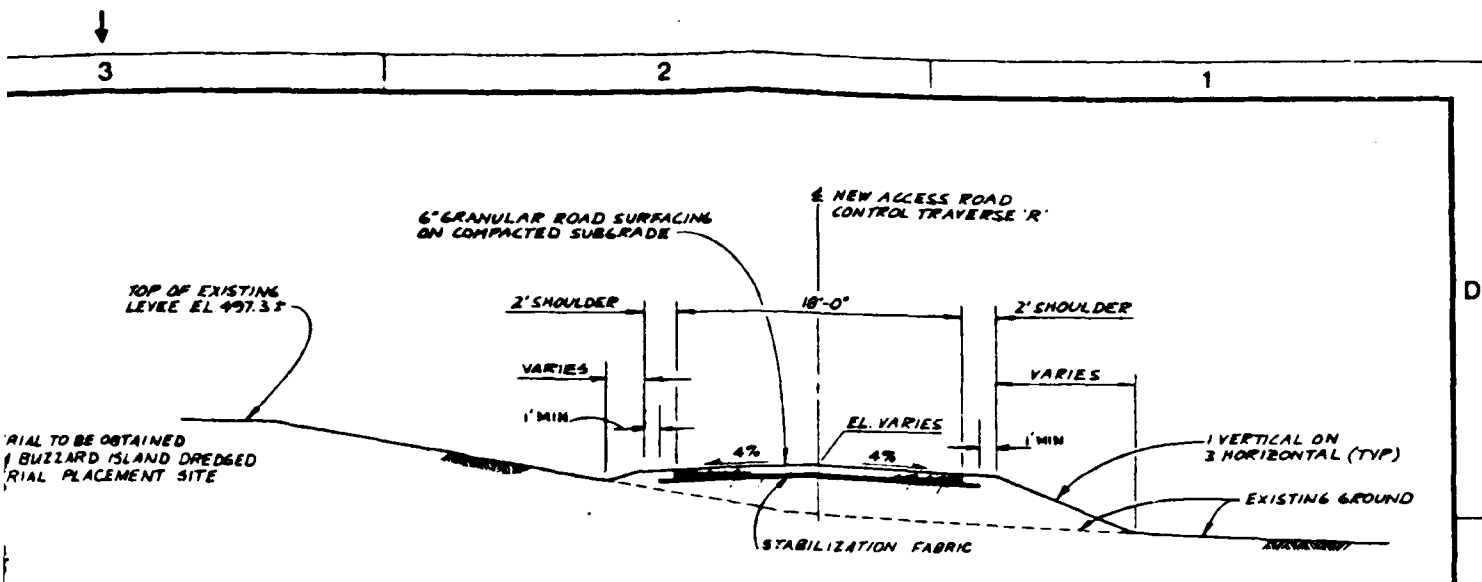
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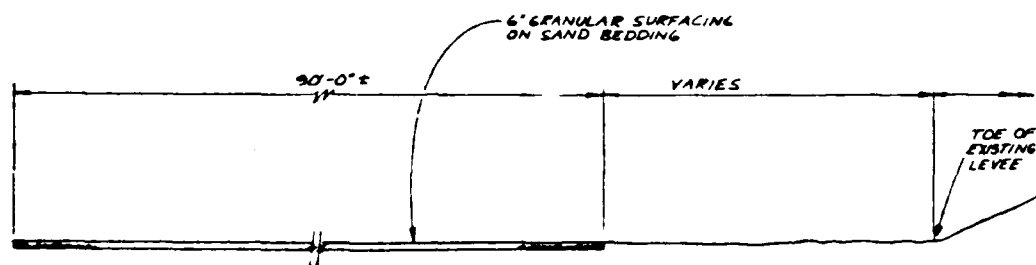
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### SECTION - DITCH LEVEE SIDE




### SECTION - SIDE RAMP TO TOP OF LEVEE



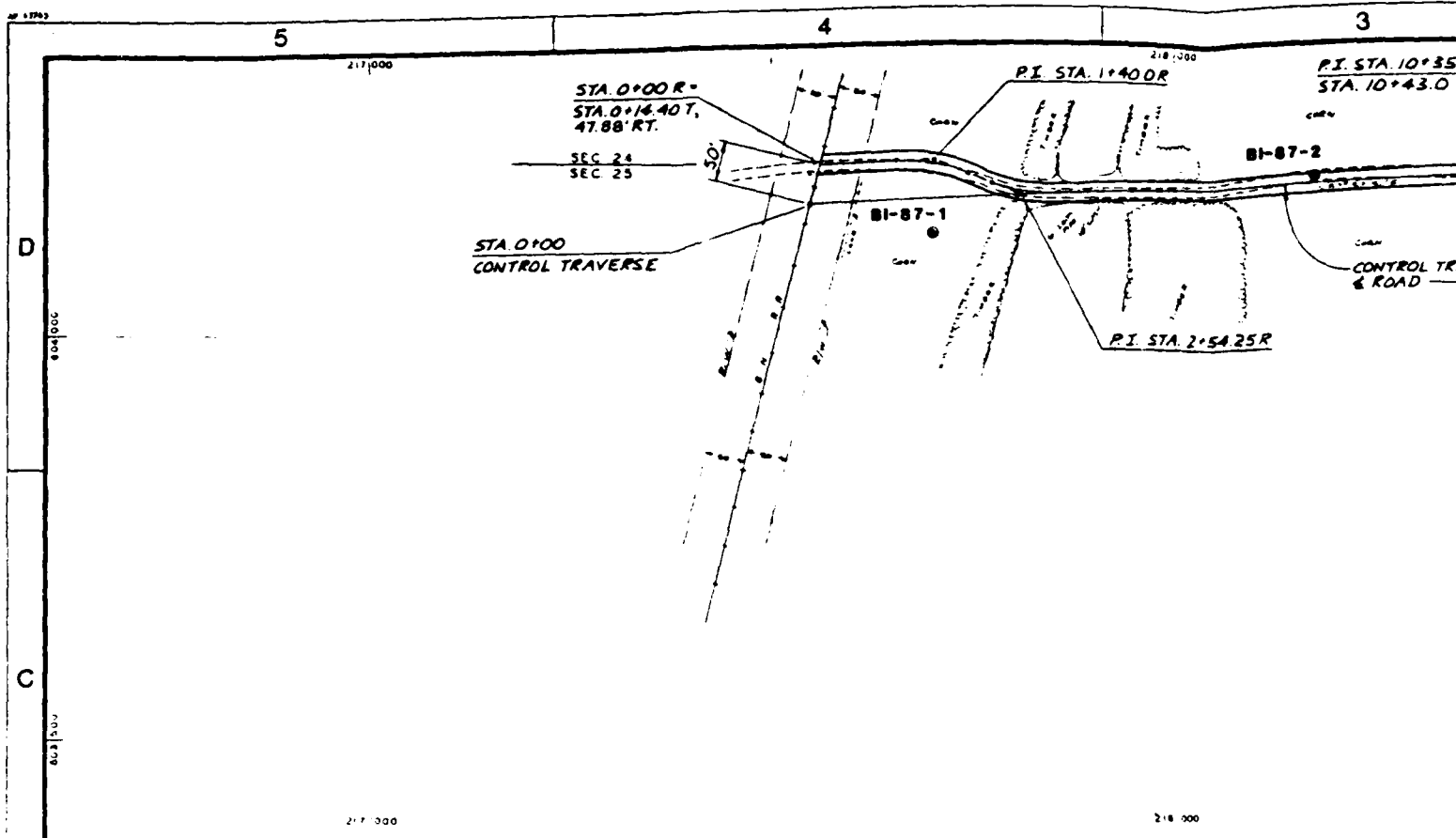
### SECTION - TURNAROUND

Revisions			
Symbol	Description	Date	Approved

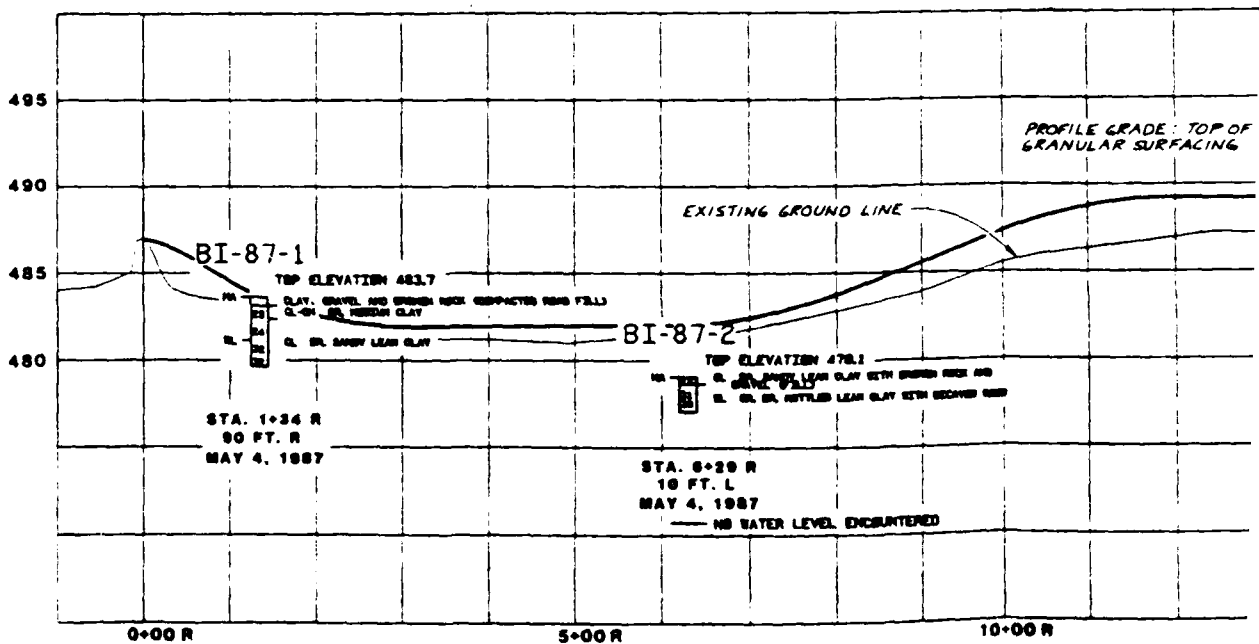
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Drawn by:	
Checked by:	
Reviewed by:	
Approved by:	Scale: <b>1" = 5'-0"</b> Sheet reference numbers: Drawing Code: Sheet: <b>4</b> of <b>4</b>

GROUND

OBTAINED  
DREDGED  
SITE



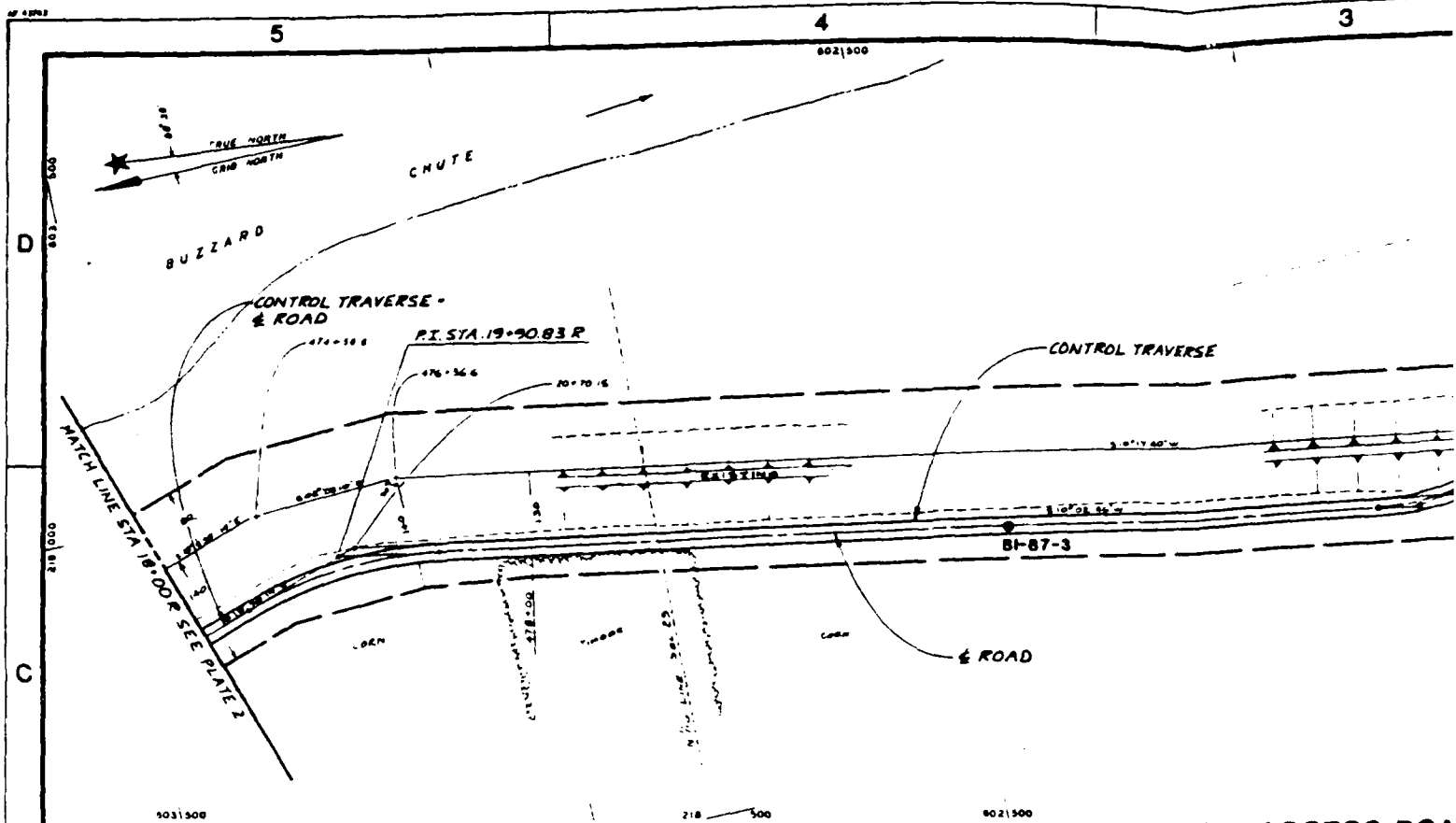
**PLAN - ACCESS ROAD**



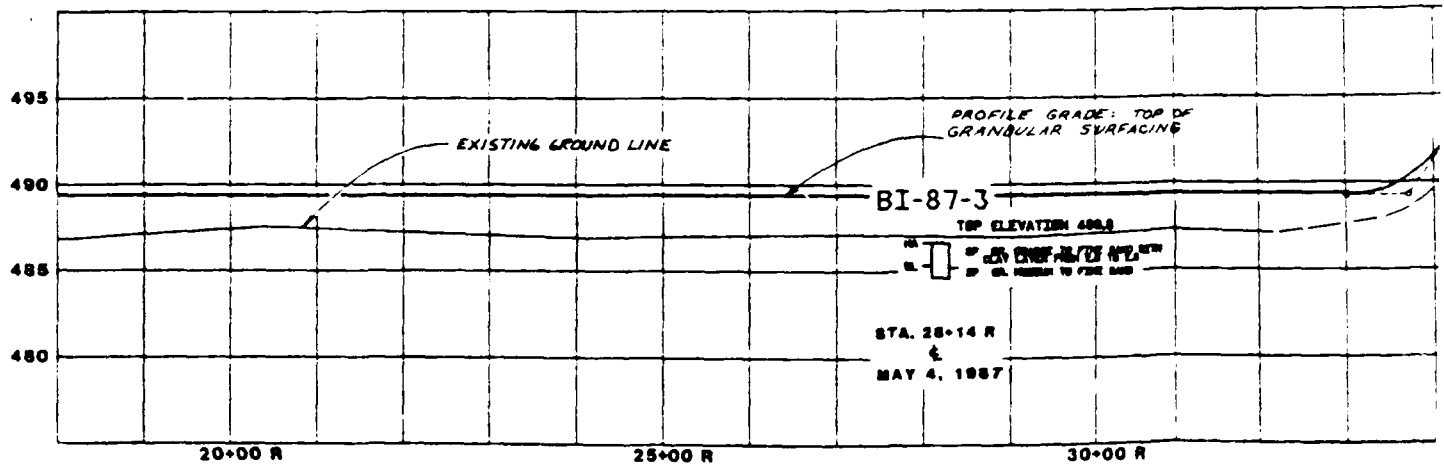
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MISSOURI

**PROFILE - ACCESS ROAD**



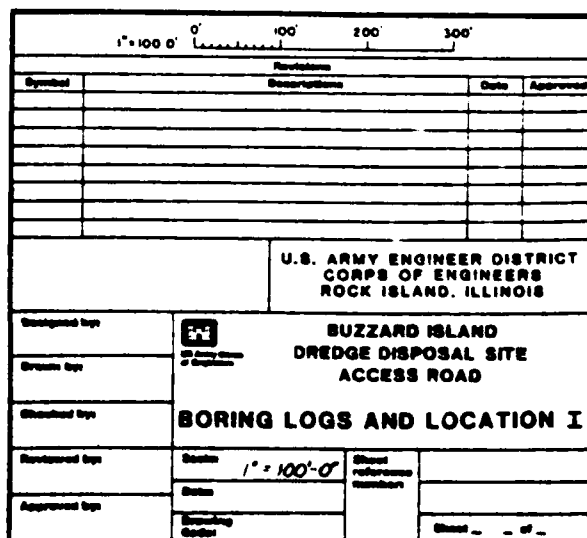
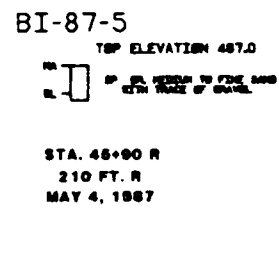
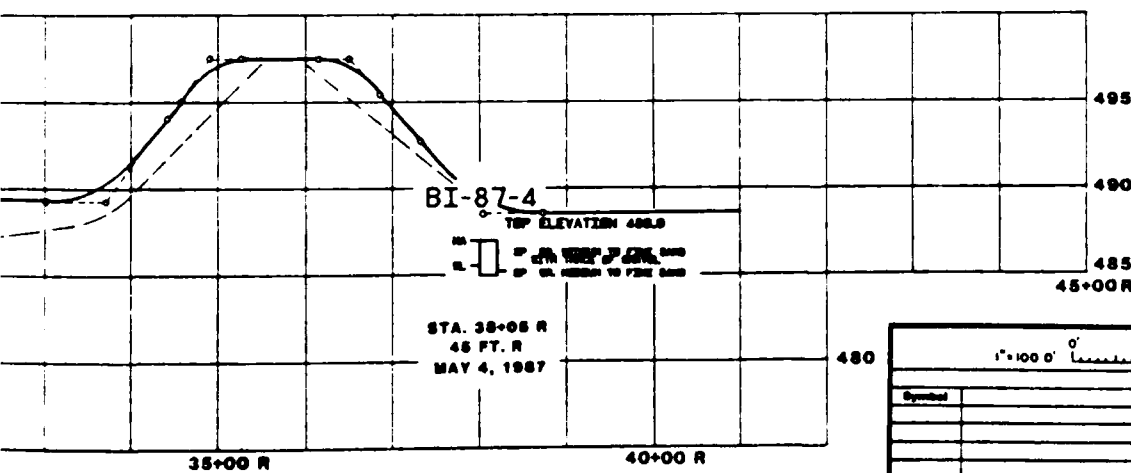
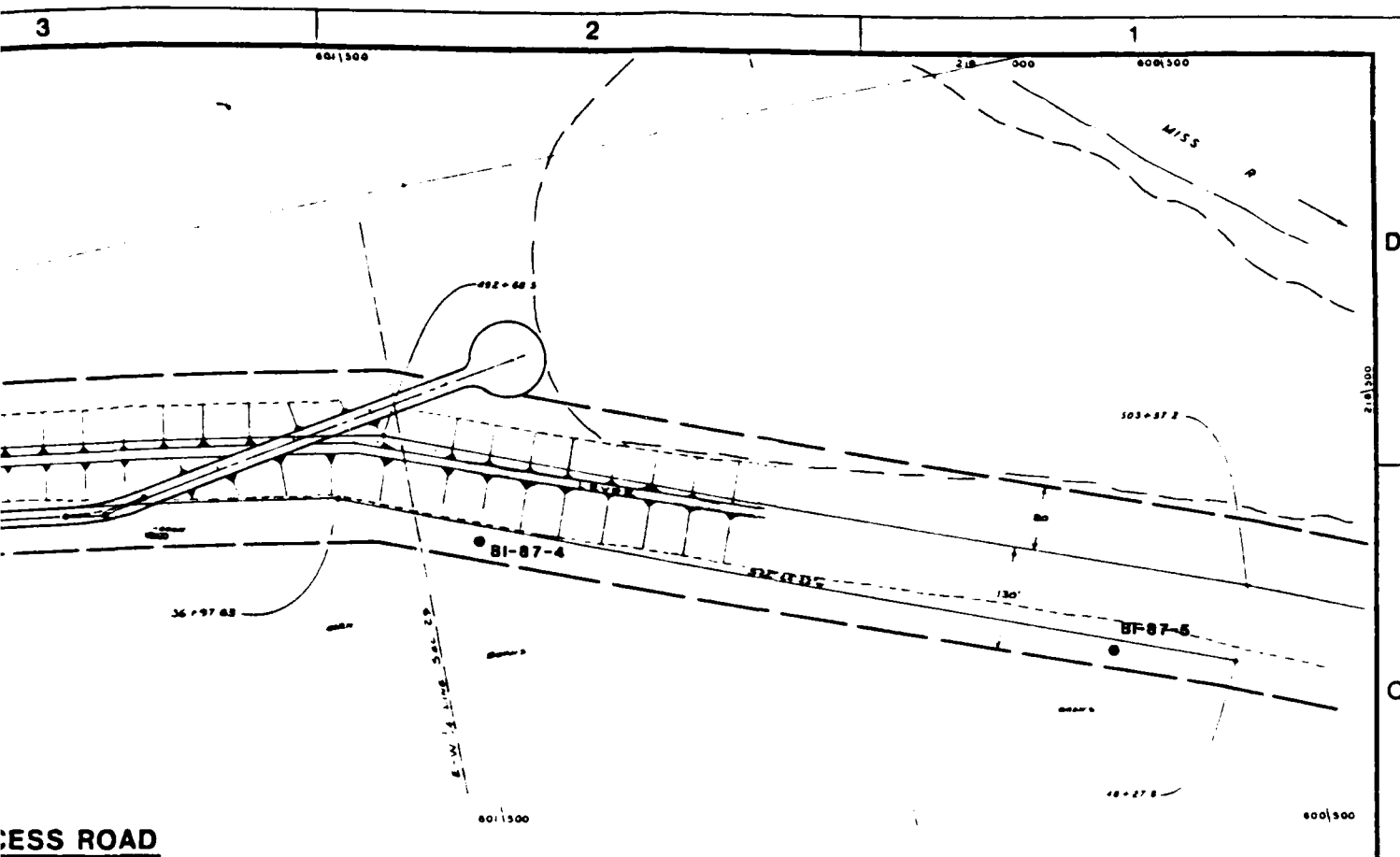


**PLAN - ACCESS ROAD**



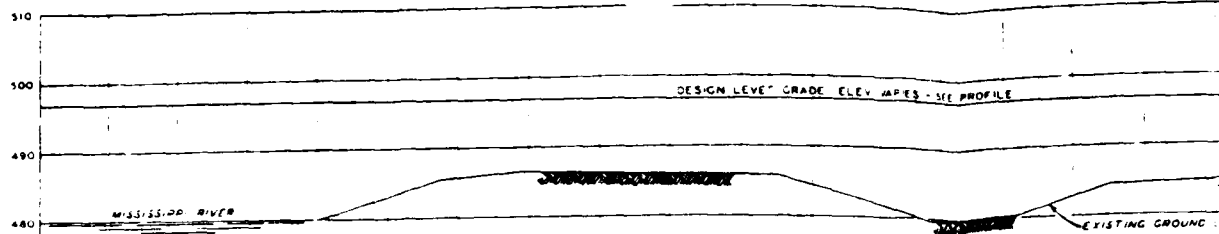
**PROFILE - ACCESS ROAD**

T.63N. R.6 W. OF THE 5<sup>TH</sup> PRIN MER.  
LEWIS COUNTY  
MISSOURI

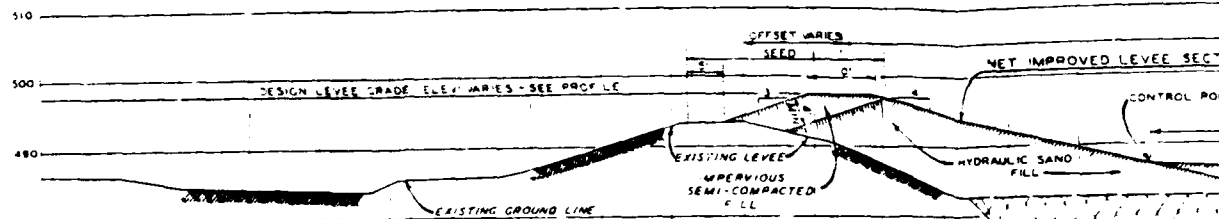


NOTE: COORDINATES AND BEARINGS ARE REFERRED TO THE  
MILITARY COORDINATE SYSTEM, EAST ZONE

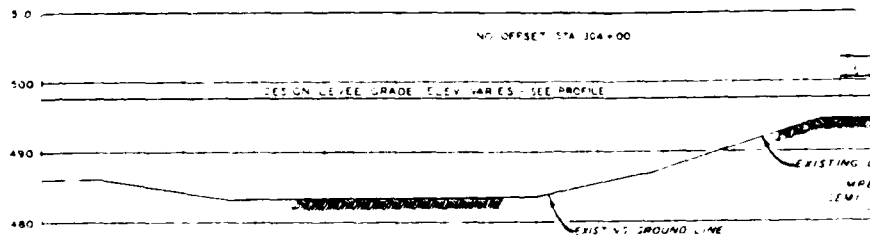
ELEVATION IN FEET ABOVE MEAN SEA LEVEL DATUM (1912 ADJ.)



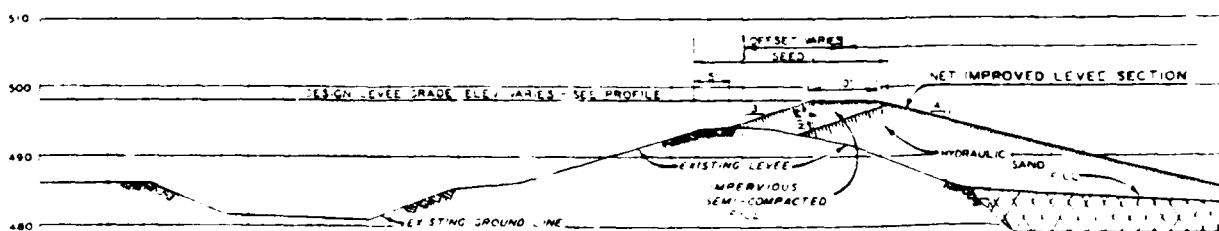
TYPICAL FOR STA 221+00 TO STA 263+00  
 STA 317+00 TO STA 332+00  
 STA 381+00 TO STA 394+00  
 STA 425+00 TO STA 439+00



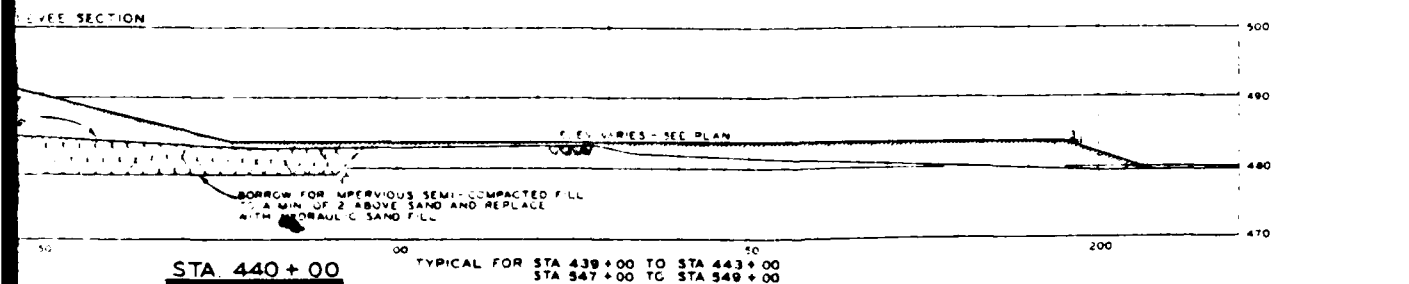
TYPICAL FOR STA 263+00 TO STA 287+45.2  
 STA 287+00 TO STA 387+00  
 STA 394+00 TO STA 408+00



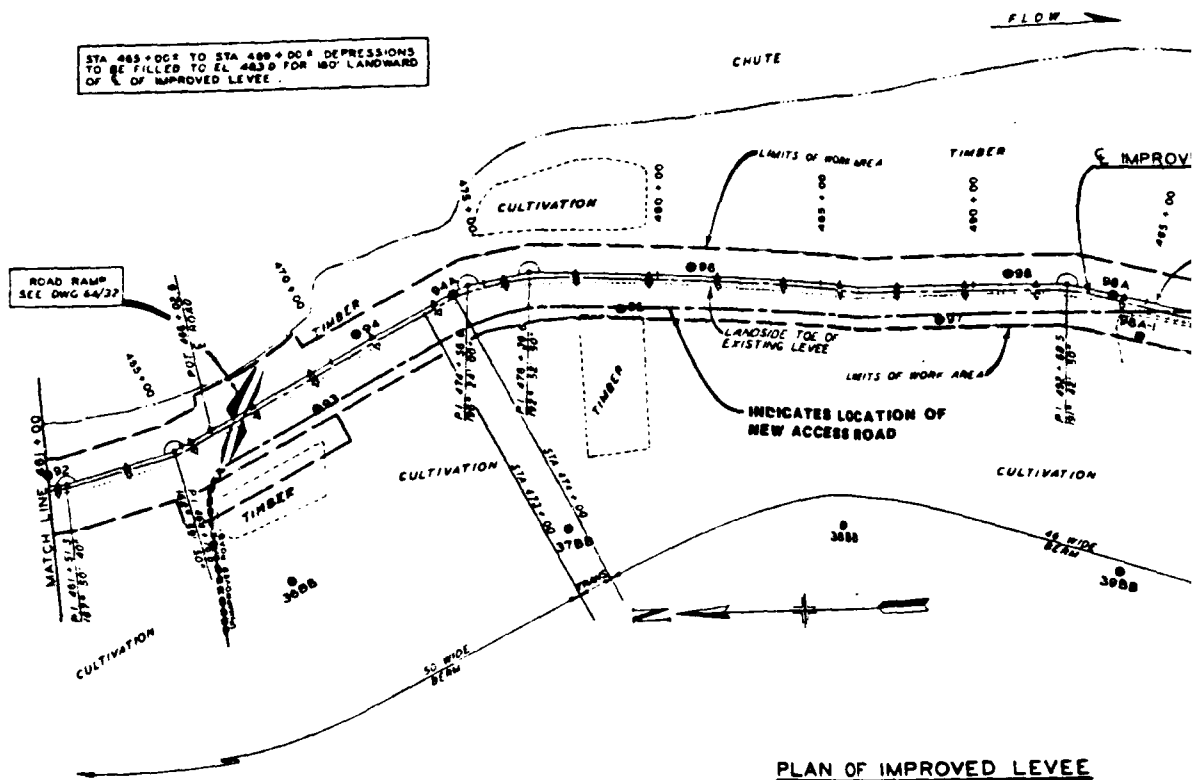
TYPICAL FOR STA 304+00 TO STA 321+00  
 STA 301+00 TO STA 317+00  
 STA 332+00 TO STA 357+00



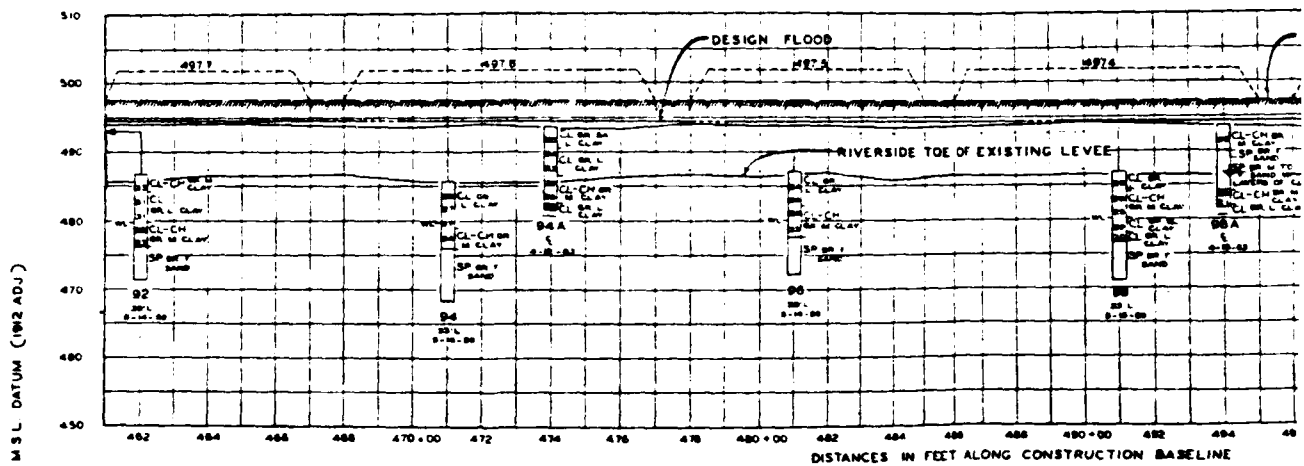
STA 44



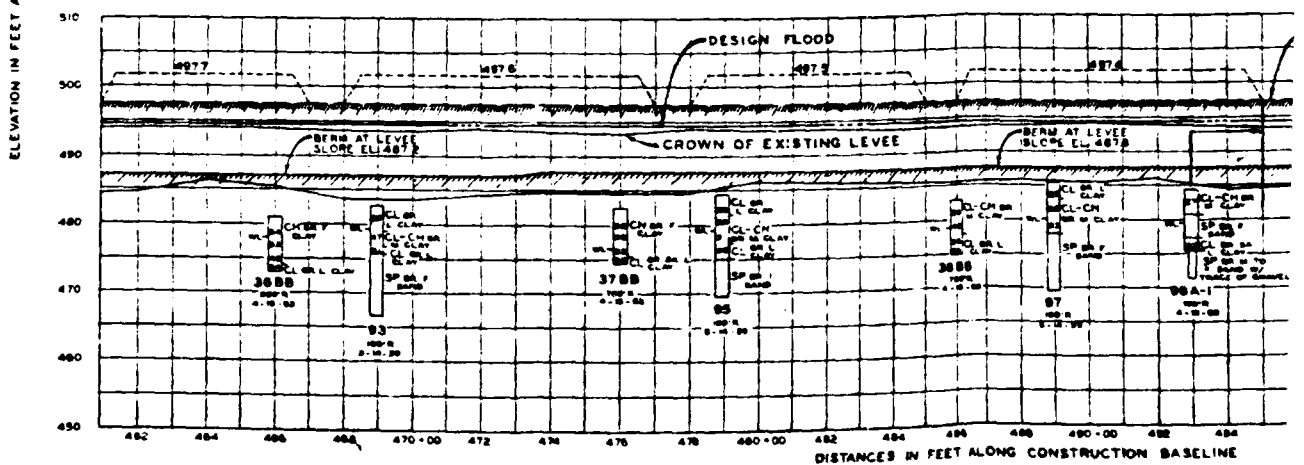
**REFERENCE DRAWING**      **PLATE 7**



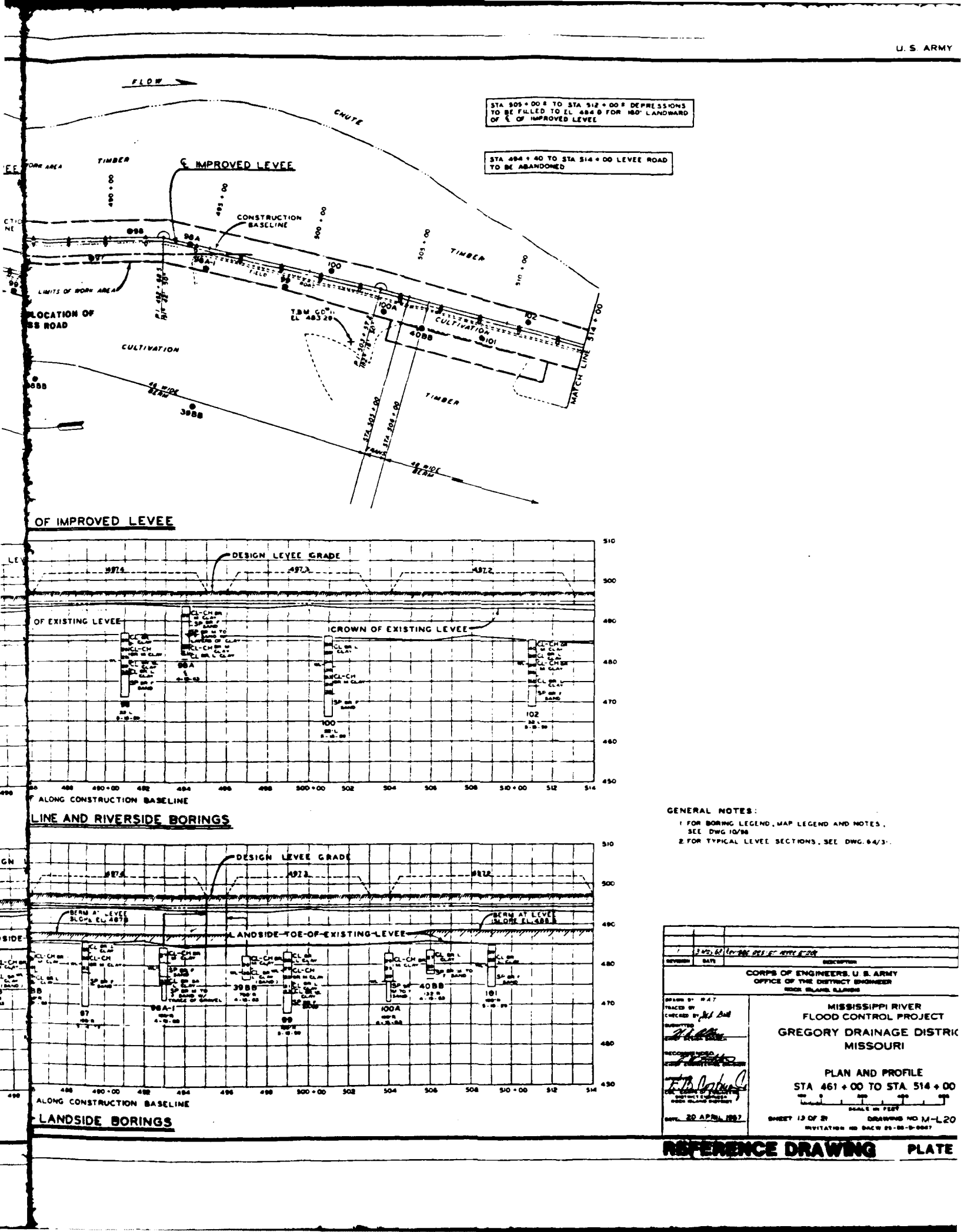
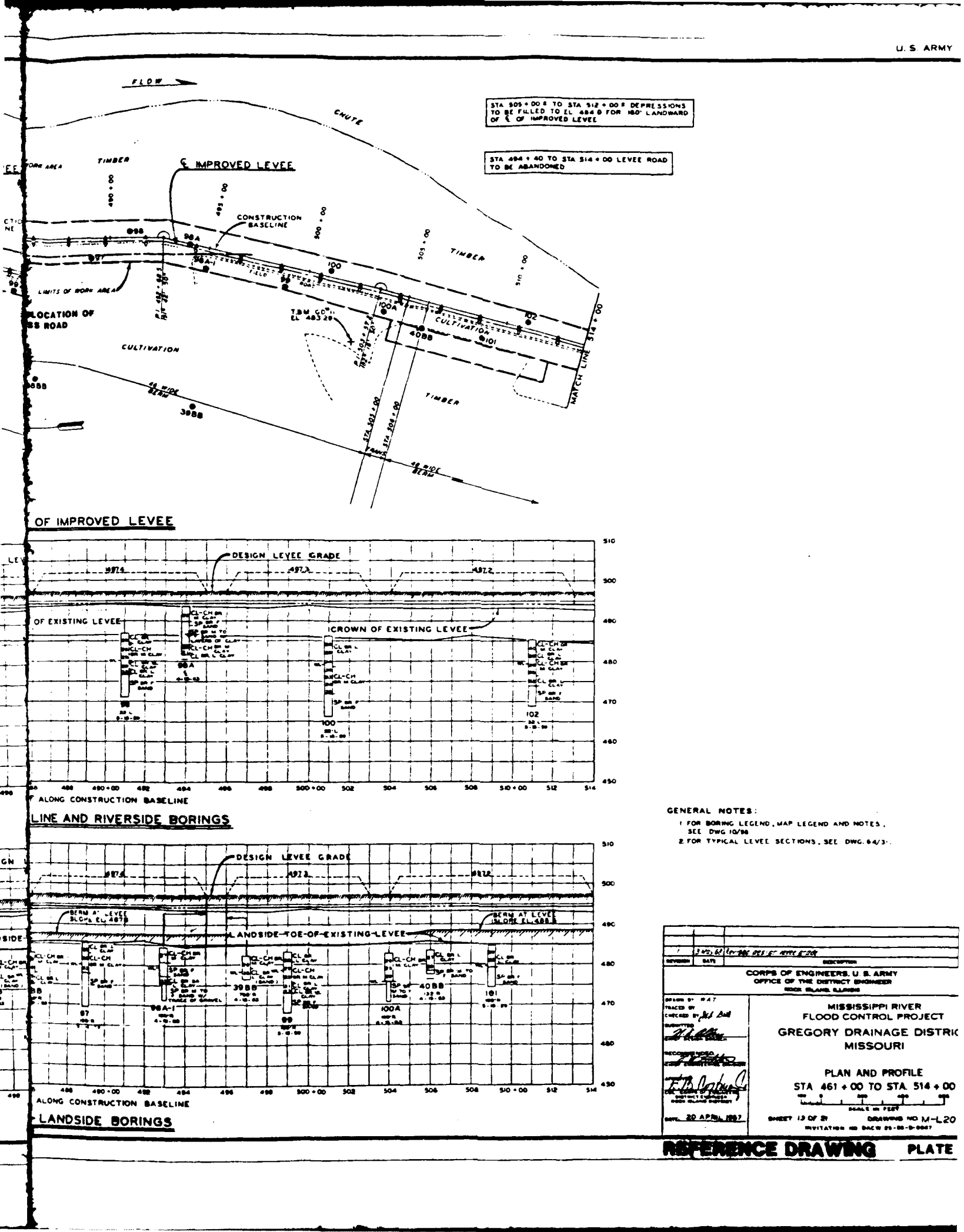
### PLAN OF IMPROVED LEVEE



### PROFILE - CENTERLINE AND RIVERSIDE BORINGS



### PROFILE - LANDSIDE BORINGS



U. S. ARMY

FLOW →

CUTS

IMPROVED LEVEL

CONSTRUCTION BASELINE

TIMBER

CULTIVATION

LOCATION OF ROAD

LIMITS OF WORK AREA

MATCH LINE 514+00

STA 461+00 TO STA 512+00 DEPRESSIONS TO BE FILLED TO EL. 484.0 FOR 180' LANDWARD OF C.O. IMPROVED LEVEL

STA 494+40 TO STA 514+00 LEVEE ROAD TO BE ABANDONED

LEV.

DESIGN LEEVE GRADE

OF EXISTING LEVEL

CROWN OF EXISTING LEVEL

ALONG CONSTRUCTION BASELINE

DESIGN LEEVE GRADE

LANDSIDE-TOE-OF-EXISTING-LEVEL

BERM AT LEEVE IN OPEN EL. 484.0

ALONG CONSTRUCTION BASELINE

LANDSIDE BORINGS

GENERAL NOTES:

1. FOR BORING LEGEND, MAP LEGEND AND NOTES, SEE DWG. 10/88.
2. FOR TYPICAL LEEVE SECTIONS, SEE DWG. 84/3.

REVISION		DATE	DESCRIPTION
CORPS OF ENGINEERS, U. S. ARMY OFFICE OF THE DISTRICT ENGINEER MISSOURI			
DRAWN BY: WAT		CHECKED BY: J. M. D.	
SUBMITTED BY: [Signature]		APPROVED BY: [Signature]	
DATE: 20 APRIL 1967		SHEET 13 OF 21	
DRAWING NO. M-L-20		INSTITUTION NO. DACW 23-66-0-0007	

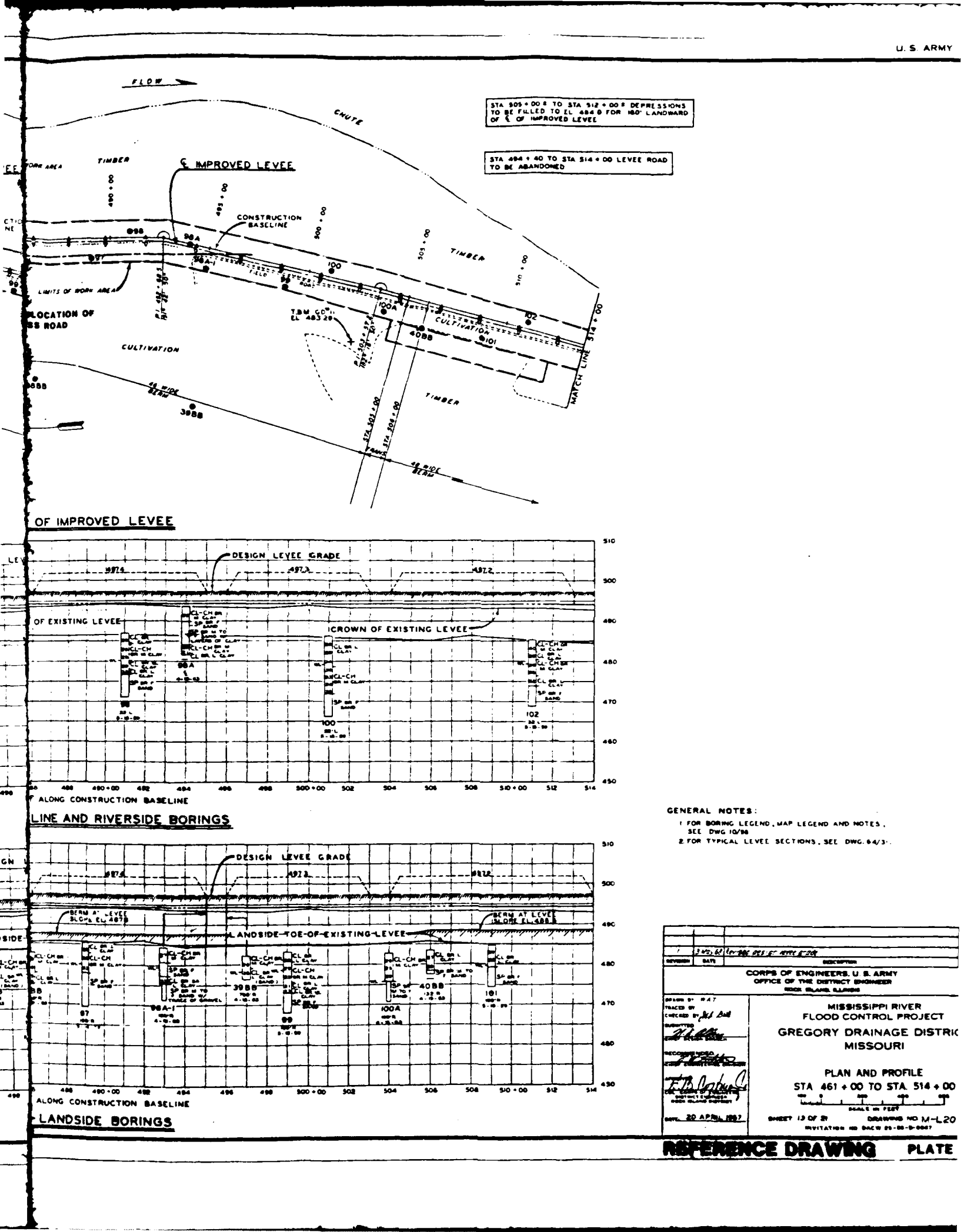
MISSISSIPPI RIVER  
FLOOD CONTROL PROJECT  
GREGORY DRAINAGE DISTRICT  
MISSOURI

PLAN AND PROFILE  
STA 461+00 TO STA 514+00

SCALE IN FEET

REFERENCE DRAWING

PLATE



U. S. ARMY

GENERAL NOTES:

1. FOR BORING LEGEND, MAP LEGEND AND NOTES, SEE DWG 10/88.
2. FOR TYPICAL LEVEE SECTIONS, SEE DWG. 84/3.

200.00 (100.00) 200.00		DESCRIPTION
REVISION	DATE	
CORPS OF ENGINEERS, U. S. ARMY OFFICE OF THE DISTRICT ENGINEER MISSOURI		
MISSISSIPPI RIVER FLOOD CONTROL PROJECT GREGORY DRAINAGE DISTRICT MISSOURI		
PLAN AND PROFILE STA 461+00 TO STA 514+00		
SHEET 13 OF 21 DRAWING NO. M-L-20 INVITATION NO. DACK 20-00-0-0001		

REFERENCE DRAWING PLATE

U. S. ARMY

GENERAL NOTES:

1. FOR BORING LEGEND, MAP LEGEND AND NOTES, SEE DWG 10/88.
2. FOR TYPICAL LEVEE SECTIONS, SEE DWG. 84/3.

200.00 (100.00) 200.00		DESCRIPTION
REVISION	DATE	
CORPS OF ENGINEERS, U. S. ARMY OFFICE OF THE DISTRICT ENGINEER MISSOURI		
MISSISSIPPI RIVER FLOOD CONTROL PROJECT GREGORY DRAINAGE DISTRICT MISSOURI		
PLAN AND PROFILE STA 461+00 TO STA 514+00		
SHEET 13 OF 21 DRAWING NO. M-L-20 INVITATION NO. DACK 20-00-0-0001		

REFERENCE DRAWING PLATE

U. S. ARMY

PLAN VIEW MAP:

- FLOW**: Indicated by an arrow pointing right.
- CUTLINE**: A dashed line indicating the boundary of the project area.
- IMPROVED LEVEL**: A solid line representing the proposed levee grade.
- CONSTRUCTION BASELINE**: A dashed line parallel to the improved level.
- TIMBER**: Areas labeled as timber land.
- CULTIVATION**: Areas labeled as cultivated fields.
- LIMITS OF WORK AREA**: Dashed lines defining the extent of the project.
- LOCATION OF ROAD**: A road crossing the project area.
- MATCH LINE**: A vertical line at station 514+00.
- STATIONS**: Stationing along the alignment from 480+00 to 514+00.

STA 505+00 TO STA 512+00 DEPRESSIONS  
TO BE FILLED TO EL 484.0 FOR 180' LANDWARD  
OF C OF IMPROVED LEVEL

STA 494+40 TO STA 514+00 LEVEE ROAD  
TO BE ABANDONED

PROFILE VIEW GRAPH (Top):

- DESIGN LEVEE GRADE**: A dashed line showing the proposed profile.
- CROWN OF EXISTING LEVEE**: A solid line showing the current profile.
- BORINGS**: Vertical columns representing soil borings with labels like CL-CH, SP, and various elevations.
- ALONG CONSTRUCTION BASELINE**: The horizontal axis with stationing from 480+00 to 514+00.

PROFILE VIEW GRAPH (Bottom):

- DESIGN LEVEE GRADE**: A dashed line showing the proposed profile.
- LANDSIDE-TOE-OF-EXISTING-LEVEE**: A solid line showing the current profile.
- BORINGS**: Vertical columns representing soil borings with labels like CL-CH, SP, and various elevations.
- ALONG CONSTRUCTION BASELINE**: The horizontal axis with stationing from 480+00 to 514+00.

**GENERAL NOTES:**

1. FOR BORING LEGEND, MAP LEGEND AND NOTES, SEE DWG 10/88.
2. FOR TYPICAL LEVEE SECTIONS, SEE DWG. 84/3.

REVISION		DATE	DESCRIPTION
CORPS OF ENGINEERS, U. S. ARMY OFFICE OF THE DISTRICT ENGINEER MISSOURI			
MISSISSIPPI RIVER FLOOD CONTROL PROJECT GREGORY DRAINAGE DISTRICT MISSOURI			
PLAN AND PROFILE STA 461+00 TO STA. 514+00			
SHEET 13 OF 21 DRAWING NO M-L-20 INSTITUTION NO. DACW 23-60-0-0007			

**REFERENCE DRAWING**

**PLATE**

[illegible]

U. S. ARMY

GENERAL NOTES:

1. FOR BORING LEGEND, MAP LEGEND AND NOTES, SEE DWG 10/88.
2. FOR TYPICAL LEVEE SECTIONS, SEE DWG. 84/3.

200.00 (100.00) 200.00		DESCRIPTION
REVISION	DATE	
CORPS OF ENGINEERS, U. S. ARMY OFFICE OF THE DISTRICT ENGINEER MISSOURI		
MISSISSIPPI RIVER FLOOD CONTROL PROJECT GREGORY DRAINAGE DISTRICT MISSOURI		
PLAN AND PROFILE STA 461+00 TO STA 514+00		
SHEET 13 OF 21 DRAWING NO. M-L-20 INVITATION NO. DACK 20-00-0-0001		

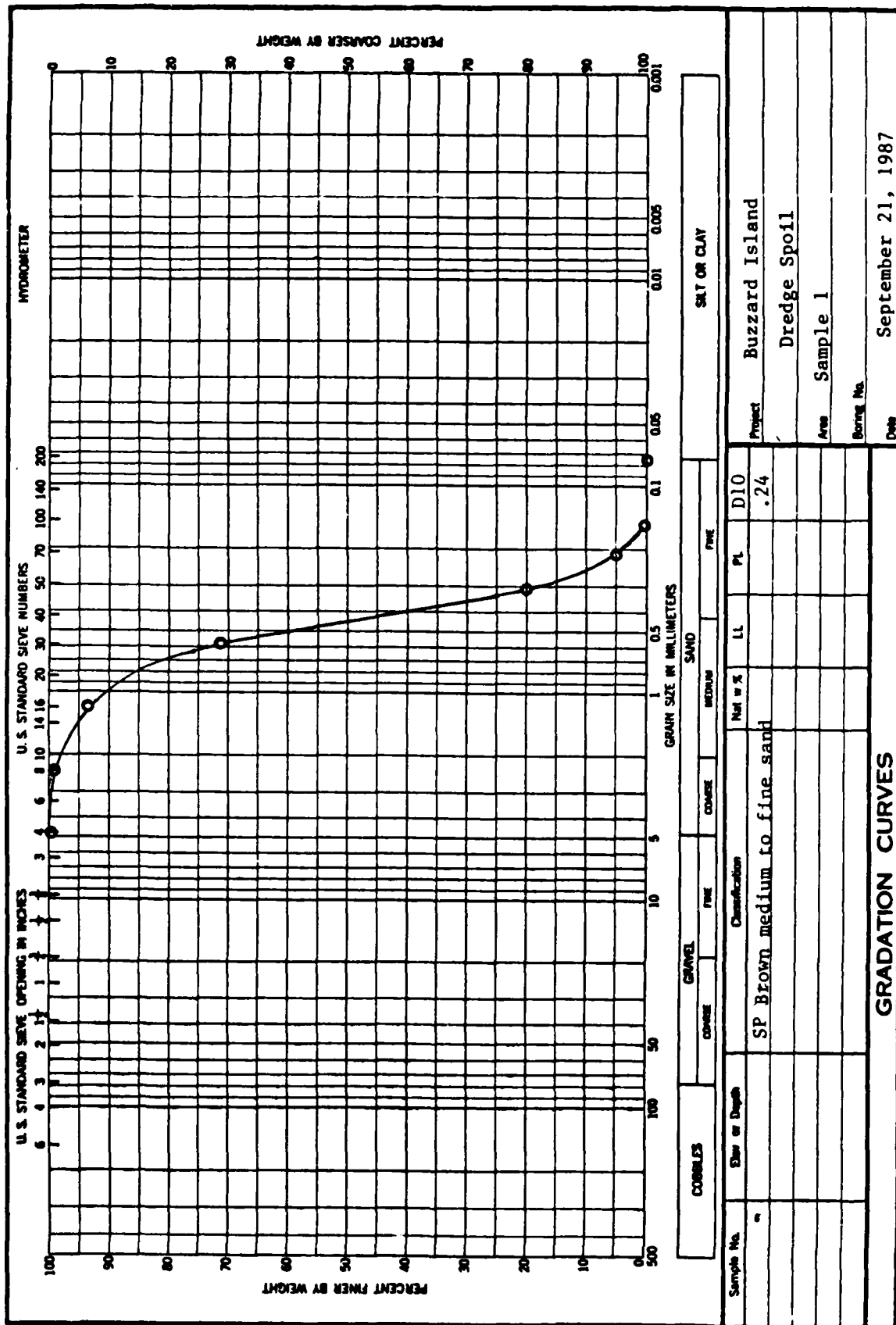
REFERENCE DRAWING PLATE

MISSISSIPPI RIVER  
BUZZARD ISLAND  
GRAIN-SIZE ANALYSIS OF STOCKPILED MATERIAL  
FROM DREDGED SAND DISPOSAL SITE SEPT. 87

U.S. Standard Sieve Size or Number	Percent Finer by Weight	
	Sample 1	Sample 2
3/8		100.0
# 4	100.0	97.7
# 8	98.8	95.0
# 16	93.5	85.7
# 30	72.3	57.2
# 50	20.4	13.5
# 70	5.0	3.8
#100	.5	.7
#200	.1	.2

CLASSIFICATION

Sample 1   SP   Brown Medium to Fine Sand  
Sample 2   SP   Brown Medium to Fine Sand



ENG FORM 2087  
1 MAY 83



BUZZARD ISLAND - MISSISSIPPI RIVER MILE 348.6-349.4  
GRAIN-SIZE ANALYSES OF SEDIMENT SAMPLES

SUMMARY OF TESTING  
November 1985

U.S. Standard  
Sieve Size  
--of number--

Percent Finer by Weight

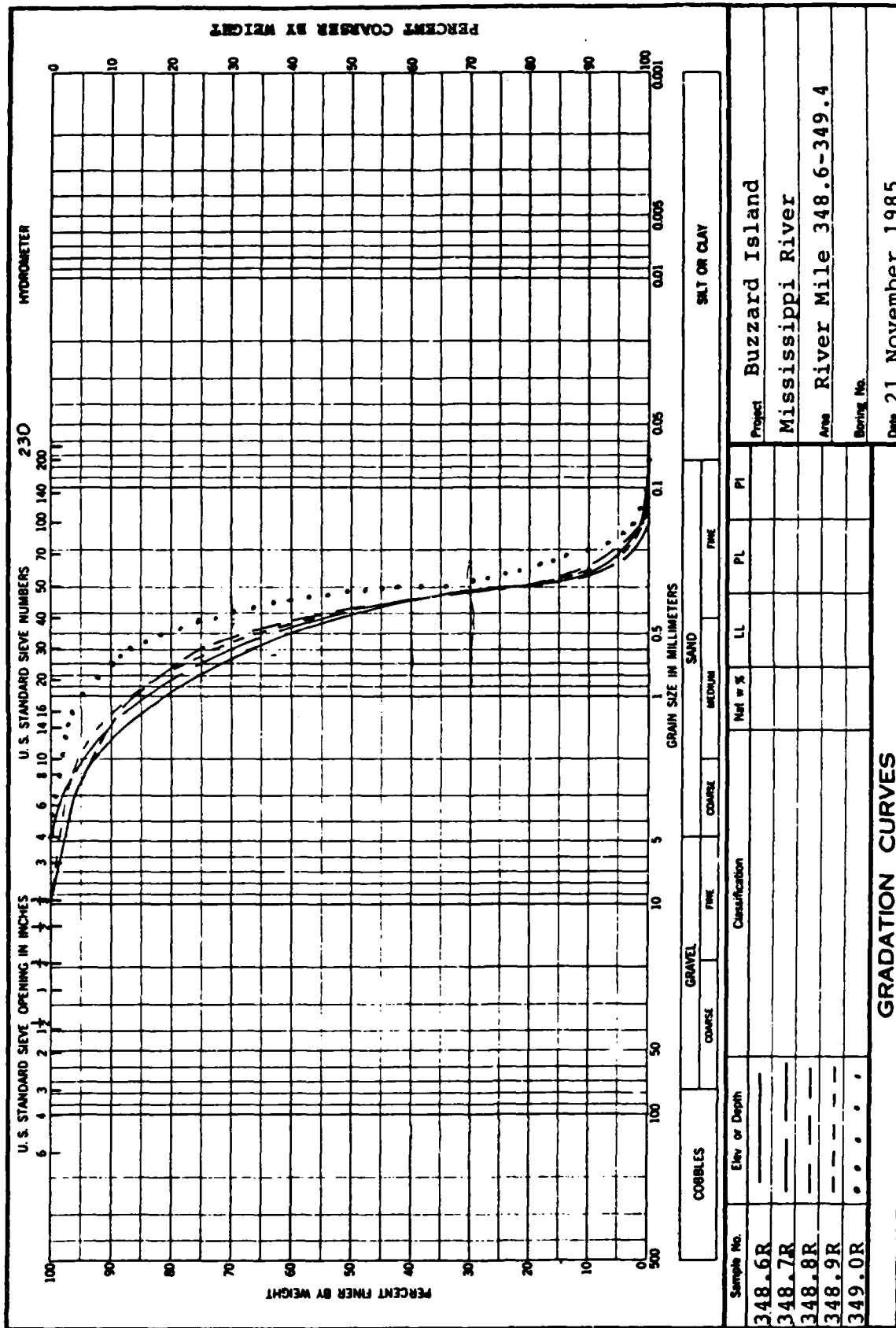
Sample No.	RM348.6R	RM348.7R	RM348.8R	RM348.9R	RM349.0R	RM349.1R	RM349.2R(A)	RM349.2R(B)	RM349.3R	RM349.4R
3/8"	100	100	100	100	100	100	100	100	100	100
#4	98	100	98	99	100	100	100	100	100	99
#8	95	97	95	97	99	99	99	99	98	99
#16	85	88	89	90	97	96	95	95	91	97
#30	67	70	75	73	87	73	73	73	67	75
#50	21	21	25	24	38	27	18	19	16	15
#70	5	3	7	4	14	7	5	5	5	4
#100	1	0	1	1	2	1	1	1	2	1
#200	0	0	0	0	0	0	0	0	2	1
#230	0	0	0	0	0	0	0	0	1.4	0.5
Classification	a	a	a	a	a	a	a	a	a	a

Notes:

1. Visual classification of soils as stated below is in accordance with "The Unified Soil Classification System" (USCS).

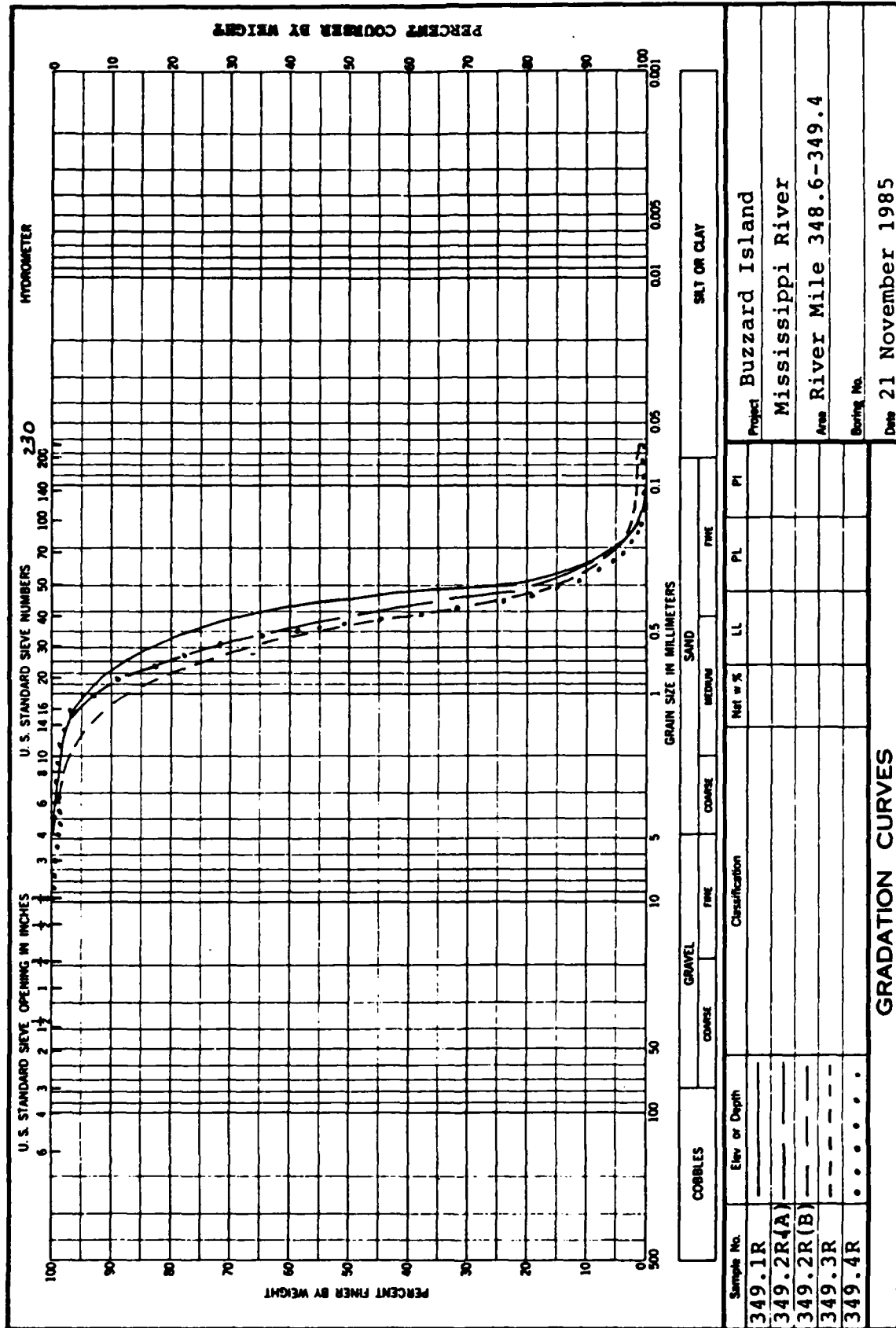
a. SP Gray brown medium to fine sand.

2. Laboratory testing was performed in accordance with EM 1110-2-1906 dated 30 Nov 70, revised 01 May 80. All samples were oven dried at 60 degrees C drying temperature to insure production of reliable dry weights for those test samples containing excessive quantities of organic matter in some form. Samples designated (A) and (B) are duplicate samples.



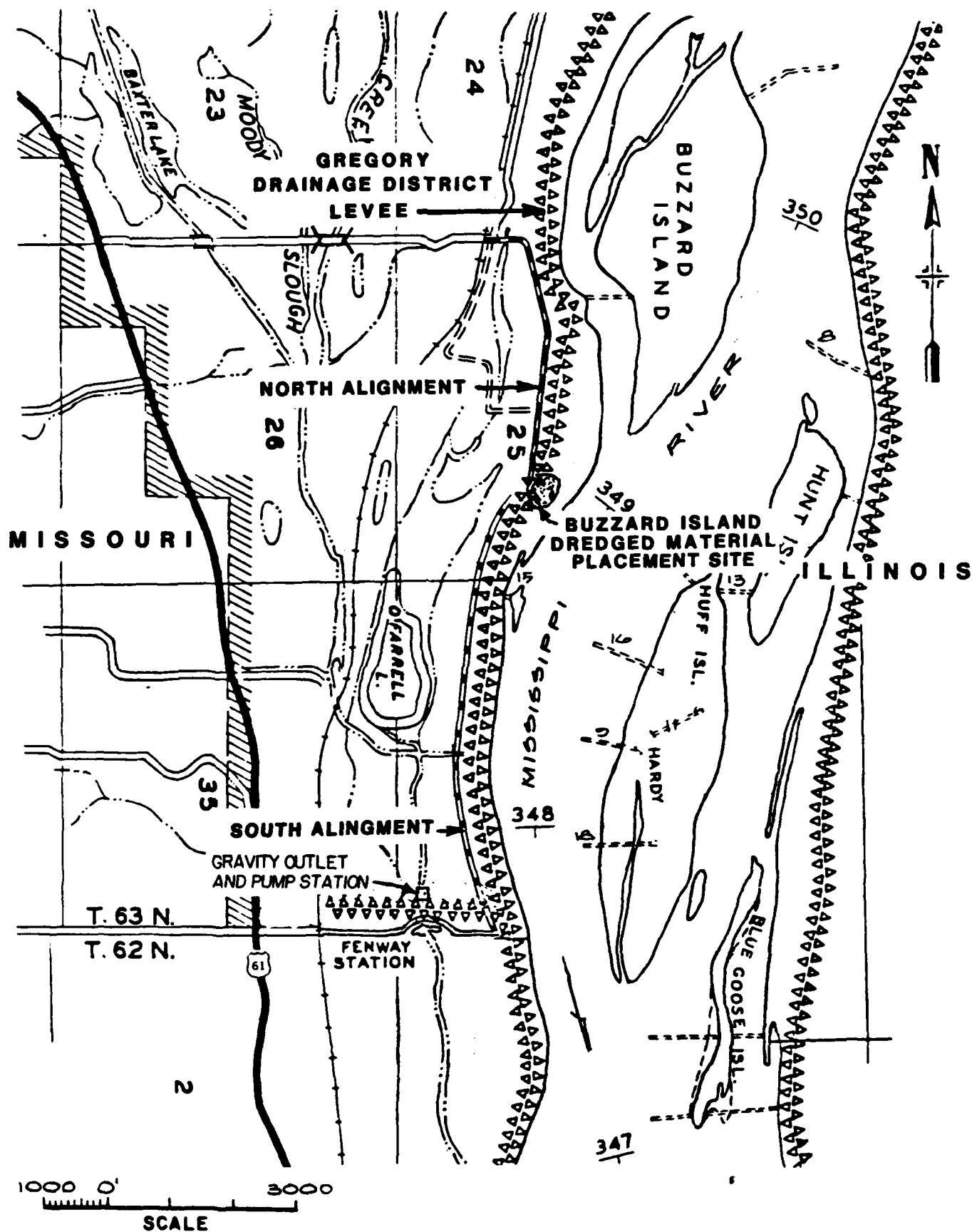
GPO 926-280

ENG FORM 1 MAY 63 2087

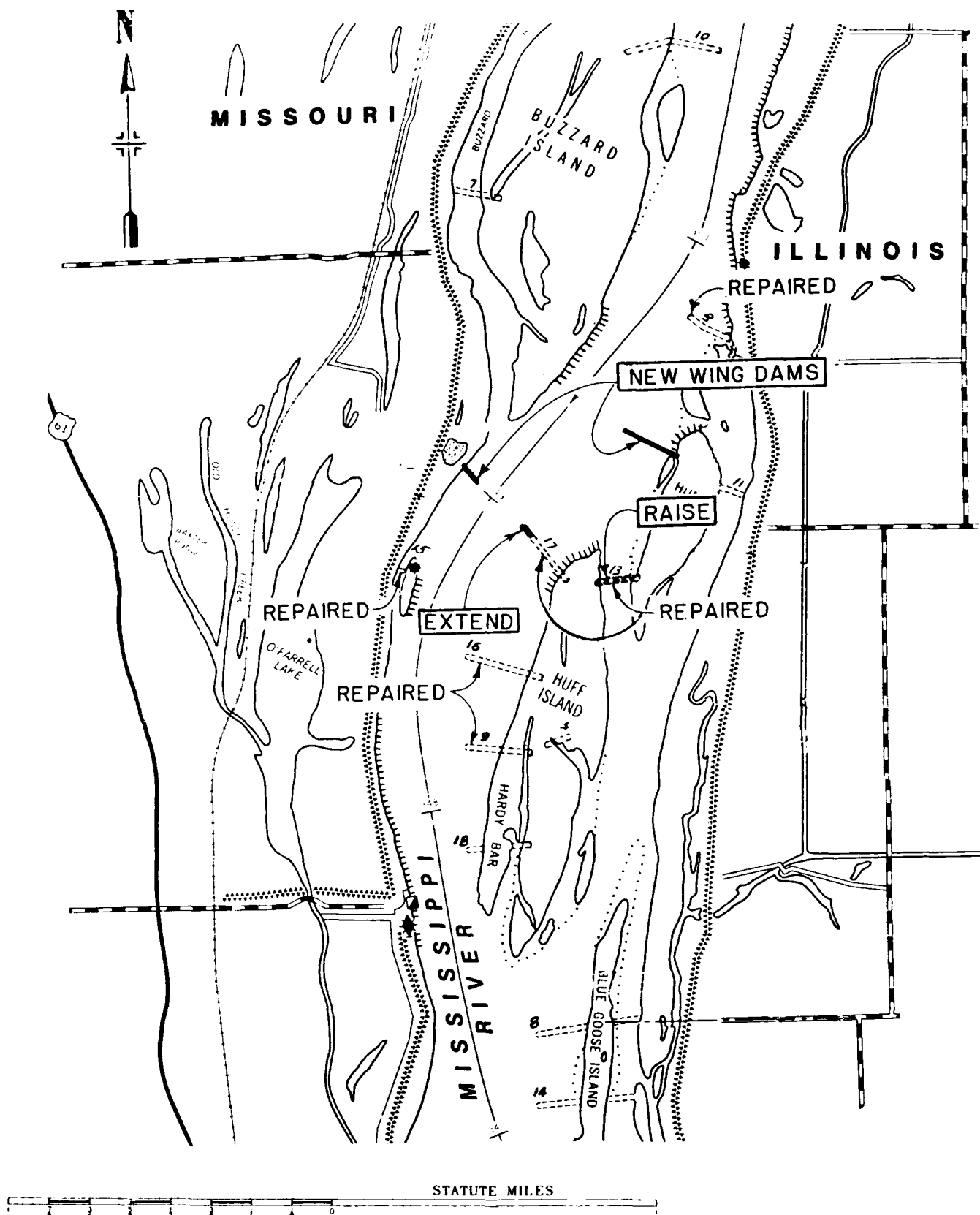


GPO 926-280

ENG FORM 2087  
1 MAY 63

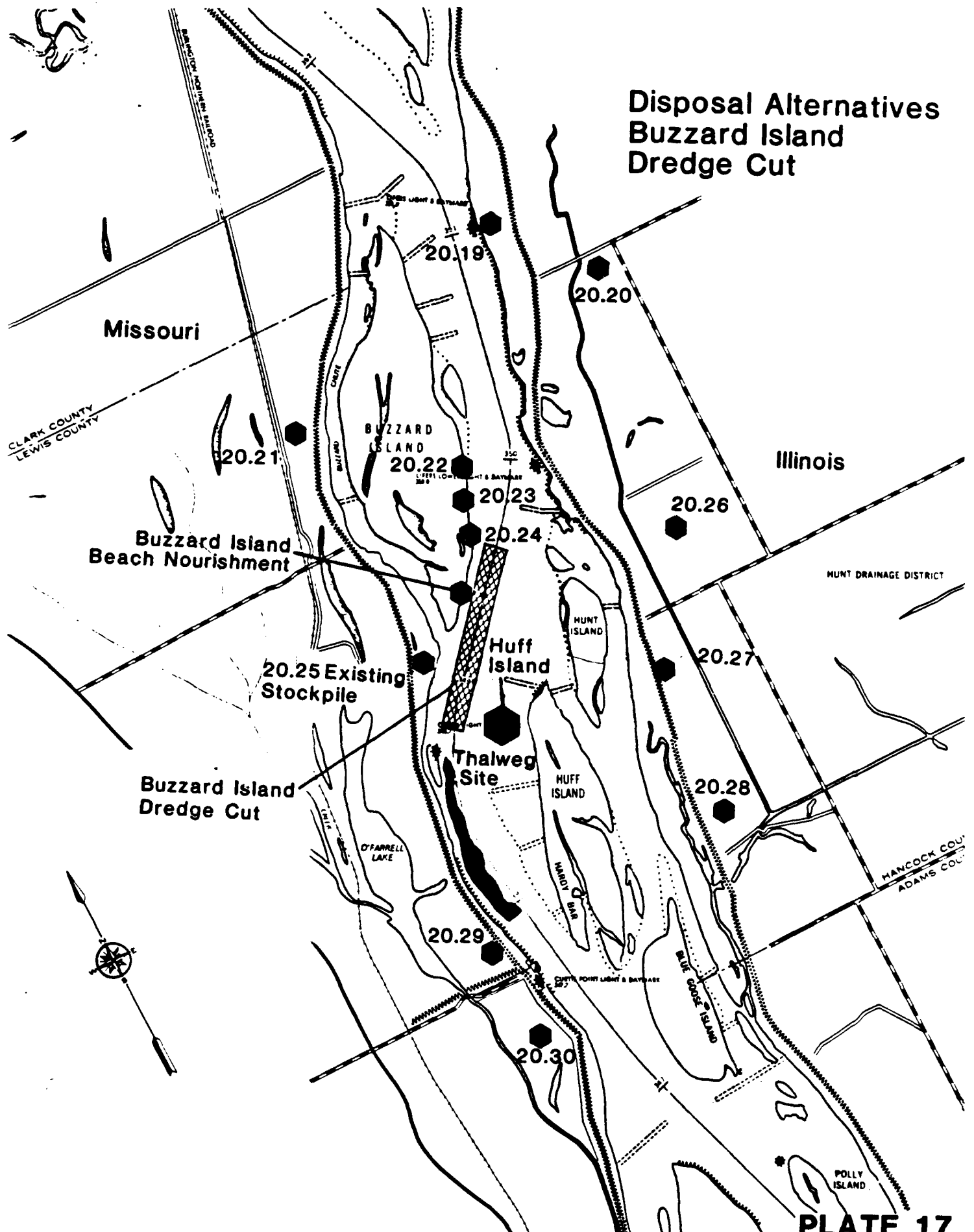


**ACCESS ROAD  
ALTERNATE ALIGNMENTS  
PLATE 15**



CHANNEL IMPROVEMENTS  
PLATE 16

# Disposal Alternatives Buzzard Island Dredge Cut



Operational Inventory of Potential Sites for the Buzzard Island Dredge Cut

Alternatives: Site Name and Location	Dredging Variables			Potential for Beneficial Use	Land Ownership		Disposal Site Features and Requirements					
	Dredging Method	Floating Pipe	Shore Pipe		Equipment Needed	Within Equipment Capabilities*	Access	Site	Pre-Disposal Description	Return Water	Site Preparation	Remarks
GREAT Site 20.27 (IL) (across Hunt Island)	Hydraulic- confined	4600'	1500'	Booster & Bulldozers	yes	31,350 cu. yd./yr.	private	private	agricultural field	pumped from levee district	berming	behind levee
GREAT Site 20.27 (IL) (around Hunt Island)	Hydraulic- confined	6700'	1100'	Booster & Bulldozers	yes, some potential material rehandling	31,350 cu. yd./yr.	private	private	agricultural field	pumped from levee district	berming	behind levee
GREAT Site 20.28 (Illinois)	Hydraulic- confined	7700'	1650'	Booster & Bulldozers	yes, some potential material rehandling	31,350 cu. yd./yr.	private	private	agricultural field	pumped from levee district	berming	behind levee
GREAT Site 20.29 (Missouri)	Hydraulic- confined	8900'	400'	Booster & Bulldozers	yes, some potential material rehandling	79,050 cu. yd./yr.	private	private	developed & lowland hardwoods	pumped from levee district	clearing, berming	behind levee
GREAT Site 20.30 (Missouri)	Hydraulic- confined	10,950'	400'	Booster & Bulldozers	yes, some potential material rehandling	79,050 cu. yd./yr.	federal	private	agricultural field	pumped from levee district	berming	behind levee
Buzzard Island (Illinois) (Historic Site)	Hydraulic- unconfined	4600'	---	Booster	yes	Beach Nourishment	federal	private	dredged material	direct to river	--	--
Huff Island Shallow Water Habitat Creation (Illinois)	Hydraulic- open water	4800'	---	Booster	yes	--	federal	federal	4' to 10' water	direct to river	riprap	island creation
Thalweg (Missouri) (RM 348.0-348.6)	Hydraulic- open water	6650'	---	Booster & Survey Boat	yes, some potential material rehandling	--	federal	federal	20' + water	direct to river	river bottom surveys	thalweg
Keokuk, Iowa <sup>+</sup>	Mechanical- barging (15 miles)	--	--	Contract	yes	143,800 cu. yd./yr.	private	private	developed	none	--	--
*Present equipment capabilities consist of 4800' of floating pipe and 2000' of shore pipe. +Beneficial Use Site proposed by the Rock Island District.												

\*Present equipment capabilities consist of 4800' of floating pipe and 2000' of shore pipe.

+Beneficial Use Site Proposed by the Rock Island District.

CORRESPONDENCE

A

P

P

E

N

D

I

X

A

MM. Lee/cjw/643

May 23, 1988

Design Branch  
General Engineering Section

Mr. Rick Mooney  
Missouri Division of Transportation  
P.O. Box 1216  
Jefferson City, Missouri 65102

Dear Mr. Mooney:

Enclosed are preliminary plans for the Buzzard Island Access Road in Lewis County, Missouri. Also enclosed is a photo plan showing the existing conditions at the proposed Burlington Northern Railroad crossing.

Please send the forms necessary to obtain a public railroad crossing at this location along with any comments that you have at this time. We have initiated proceedings to enter into a construction and maintenance type agreement with the Burlington Northern Railroad Company.

Point of contact for the overall project is Ms. Barbara Lee. Her telephone number is 309/788-6361, extension 643. Should you have any questions regarding the railroad crossing agreement, please call Mr. John Merritt at 309/788-6361, extension 294.

Your cooperation on this project is very much appreciated.

Sincerely,  
ORIGINAL SIGNED BY  
GARY LOSS

Doyle W. McCully, P.E.  
Chief, Engineering Division

Enclosure

CF:  
ED-D (Dist File)  
ED-DG (File)  
RE  
ED-DM

May 20, 1988

Engineering Division

Mr. Walt Dawalle  
Burlington Northern Railroad Company  
1230 E. Diehl Road  
Naperville, Illinois 60506-1080

Dear Mr. Dawalle:

Enclosed are preliminary plans for the Buzzard Island Access Road in Lewis County, Missouri. This project will require the construction of a new public railroad grade crossing across your tracks as shown on the enclosed plans.

The proposed project consists of a two lane crushed stone road (22-foot wide) for access to a designated dredged sand placement site adjacent to the Mississippi River. Anticipated traffic volume on the proposed road will be low, however, the traffic will consist of trucks and heavy construction equipment. Construction of the access road is scheduled for the fall of 1988. In order to meet this schedule, we need to enter into a construction and maintenance type agreement with your company by September, 1988.

Please furnish a cost estimate for furnishing and installing the proposed crossing as well as information regarding the type of crossing and maintenance arrangements the Burlington Northern will require at this location. Further guidance on agreement requirements will be discussed with you in the near future by telephone.

We have begun correspondence with the Missouri Division of Highways regarding requirements for a public railroad crossing permit.

If you have any questions regarding the project, please call Ms. Barb Lee at 309/788-6361, extension 643. Questions regarding the railroad agreement should be

-2-

directed to Mr. John Merritt at 309/788-6361, extension 294.

Your cooperation on this project would be very much appreciated.

Sincerely,

ORIGINAL SIGNED BY

*Doyle W. McCully*  
for Doyle W. McCully, P.E.  
Chief, Engineering Division

Enclosure

CF:

~~ED-B~~ (Dist File)

~~ED-DG~~

RE

ED-DM



REPLY TO  
ATTENTION OF

DEPARTMENT OF THE ARMY  
ROCK ISLAND DISTRICT, CORPS OF ENGINEERS  
CLOCK TOWER BUILDING - P.O. BOX 2004  
ROCK ISLAND, ILLINOIS 61204-2004

June 20, 1986

Planning Division

Potential Users of Dredged Material

As a result of channel maintenance dredging on the Mississippi River, the Rock Island District of the Corps of Engineers has placed sand at various sites along the river for public use. An attached map (enclosure 1) indicates the existing locations where sand has been placed for beneficial uses.

Sand has been placed at one Federal and two privately-owned sites. The federally-owned site located at Big Timber Forest Preserve in Henderson County, Illinois, has material available free of charge. The privately-owned sites located at the city of LaGrange in Lewis County, Missouri, and Northeast Missouri Power in Marion County, Missouri, will require coordination with the landowner to establish the availability of the material for removal and any applicable charges. Access to the sites may require coordination with others (i.e., levee districts) to reach them.

Dredged sand has a variety of uses, including construction fill, winter ice control, bituminous mix, concrete production and recreational uses. Information concerning the physical and chemical composition of the material is available through our office. The majority of the material is clean, well-graded sand.

Because of the District's interest in finding beneficial uses for this sand, we would appreciate your filling out and returning, in the pre-stamped addressed envelope, the attached survey (enclosure 2). The District will use the survey to better predict the need for material, the locations where sand can be best utilized, and the locations accessible by current dredging equipment. By completing this survey, you are under no obligation to take any material. If you know of any major construction projects requiring large amounts of fill material, please call or write the District so we can discuss possible mutually-beneficial arrangements.

-2-

If you have any questions, please call Mr. Darron Niles at (309) 788-6361, Ext. 400, or write to the following address:

District Engineer  
U.S. Army Engineer District, Rock Island  
ATTN: Planning Division  
Clock Tower Building - P.O. Box 2004  
Rock Island, Illinois 61204-2004

Sincerely,

  
Rodley M. Hanson, P.E.  
Chief, Planning Division

Enclosures



DREDGED MATERIAL  
BENEFICIAL USE SURVEY

1. Name: \_\_\_\_\_  
Company/organization: \_\_\_\_\_  
Address: \_\_\_\_\_  
City: \_\_\_\_\_ State: \_\_\_\_\_ Zipcode \_\_\_\_\_  
Telephone: \_\_\_\_\_

2. Who do you represent?

State	( )
County	( )
Township	( )
Municipality	( )
Construction Firm	( )
Terminal Operator	( )
Other: _____	( )

3. Dredged sand is useful to you for what purpose?

( ) No use	( ) Asphalt mix
( ) Fill	( ) Asphalt cover
( ) Ice control	( ) Mortar sand
( ) Ready mix	( ) Landscape purposes
( ) Soil conditioning	( ) Other _____

4a. How much sand or other fill did you use for all purposes last year?

\_\_\_\_\_ cubic yards  
\_\_\_\_\_ tons

b. This was a: ( ) heavy, ( ) average, ( ) or light use year.

5. How much sand do you anticipate using in the future?

\_\_\_\_\_ per year  
\_\_\_\_\_ next ten years

(over)

Encl 2

6. How far would you travel for free dredged material? \_\_\_\_\_ miles

7. In order to guarantee that you receive the desired amount of sand, is there any assistance you would be willing to provide in exchange for free material?

- ( ) 24 hour trucking
- ( ) Use of property adjacent to the river
- ( ) Other \_\_\_\_\_

8. Which site/sites would you remove material from? (Identify below or on attached maps)

\_\_\_\_\_

9. Are there any other areas along the river where you would like sand placed? (Indicate on attached maps or describe below)

\_\_\_\_\_

10. Are there any individuals, companies, etc., you know of that would be interested in free dredged sand?

\_\_\_\_\_

11. Comments: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Please return this survey and any comments you have to:

U.S. Army Corps of Engineers, Rock Island  
ATTN: Planning Division  
Clock Tower Bldg. - P.O. Box 2004  
Rock Island. IL 61204-2004  
Telephone: (309) 788-6361 Ext.400

PLEASE NOTE: If your plans are to fill any low-lying areas or wetlands, you may need local, State, and/or Federal permits. Please contact the above number for more information.



SUITE F  
815 E. 14TH STREET  
DES MOINES, IOWA 50316  
PHONE (515) 263-8888

DOW E. PROUTY, PRESIDENT • ROBERT C. MESKIMEN, PRESIDENT-ELECT  
KENNETH W. McNICHOLS, EXECUTIVE DIRECTOR

#### BOARD OF DIRECTORS

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The River Products Co.  
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Burlington, Iowa

JACK ZIMMERMAN  
Schildberg Stone Products Co., Inc.  
Des Moines, Iowa

July 9, 1986

Dudley M. Hanson, P.E.  
Chief, Planning Division  
Department of the Army  
Rock Island District Corps of Engineers  
Clock Tower Building  
P.O. Box 2004  
Rock Island, Illinois 61204-2004

Dear Mr. Hanson:

We are in receipt of a letter you mailed on June 20, 1986, to "Potential Users of Dredged Material". In the letter, you are offering to give away, free of charge, sand at several locations along the Mississippi River.

Members of the Iowa Limestone Producers Association very strongly object to competing with U.S. government departments and agencies such as the Corps of Engineers. The membership of this association is primarily made up of local companies whose family members have spent a lifetime and invested millions of dollars in developing the aggregate industry.

In order for us to extract and sell a similar product, our members must have permits from several agencies such as the Iowa Department of Natural Resources, Iowa Department of Agriculture, Federal Mine Safety and Health Administration, E.P.A., and Corps of Engineers. This all costs us money. You don't have to answer to a single one of the regulators mentioned above. Your costs are all covered by taxpayer dollars and your offer threatens to take business from local aggregate producers and eliminate some more precious jobs.

We realize the river channel needs to be dredged in order to maintain the shipping lanes that are vital to us all. In years past, the Corps of Engineers has disposed of this material by filling in parks and other low areas along the Mississippi River.

Mr. Dudley M. Hanson  
July 9, 1986  
Page 2

Our industry certainly has no objection to this worthy cause, but when you offer the material for such uses as "construction fill, winter ice control, bituminous mix, concrete production, and recreational uses", we see this as a flagrant violation of the free enterprise system and ask that you rescind this offer immediatly.

Thank you for your understanding and cooperation.

Most sincerely,

IOWA LIMESTONE PRODUCERS ASSOCIATION, INC.



Kenneth W. McNichols  
Executive Director

KWM/bb

17 July 1986

MEMORANDUM FOR RECORD

SUBJECT: Meeting with Gregory Drainage District Trustees

1. Present:

Fred Schletter - President  
Steve Logsdon - Vice President  
James Higbee - Commissioner  
Myrl Stenke - Attorney  
Kent Leftwich - Commissioner  
George Wells - COE - Rock Island  
Darron Niles - COE - Rock Island

2. Discussion:

a. Mr. Niles and the writer met with the subject trustees on 16 July 1986 to discuss the removal of dredged material from the right bank of the Mississippi River at River Mile 349 (see attached map).

b. About 500,000 cubic yards of material lie between the levee and the river.

c. The levee is federally owned, on drainage district right-of-way but the drainage district is responsible for its maintenance and repair.

d. The trustees were not overly concerned about people travelling across their property, to gain access to the pile, but rather the damage that may be done to its levee that the Drainage District would be responsible for.

e. Access to the site is by way of county and farm field roads, all of which are considered in good shape. Some areas may require upgrading if the road was to be heavily used.

f. Because of the bridge load limits in the area, the trustees suggested that the Shiloh Road be used to move trucks to the site and the Gregory Road be used to move trucks away from the site. Both roads would keep traffic off the levee.

g. The Lewis and Clark County Highway Departments will be contacted to see if either or both roads could be improved in areas of need.

h. The site may not be accessible during periods of high water or wet periods but if the access road is improved the site will be available a majority of the time.

i. A statement from the District to the trustees will be required, describing responsibilities. This statement will have to be developed before material is removed. Their concern is that the Drainage District may have to repair damage by others.

NCRPD-R

SUBJECT: Meeting with Gregory Drainage District Trustees

j. Coordination with ED-D and OD-SI and the county highway departments will be accomplished.

*George Wells*  
GEORGE WELLS

Waterways Planning & Services Branch

CF:

PD (Dist File)

PD (Hanson)

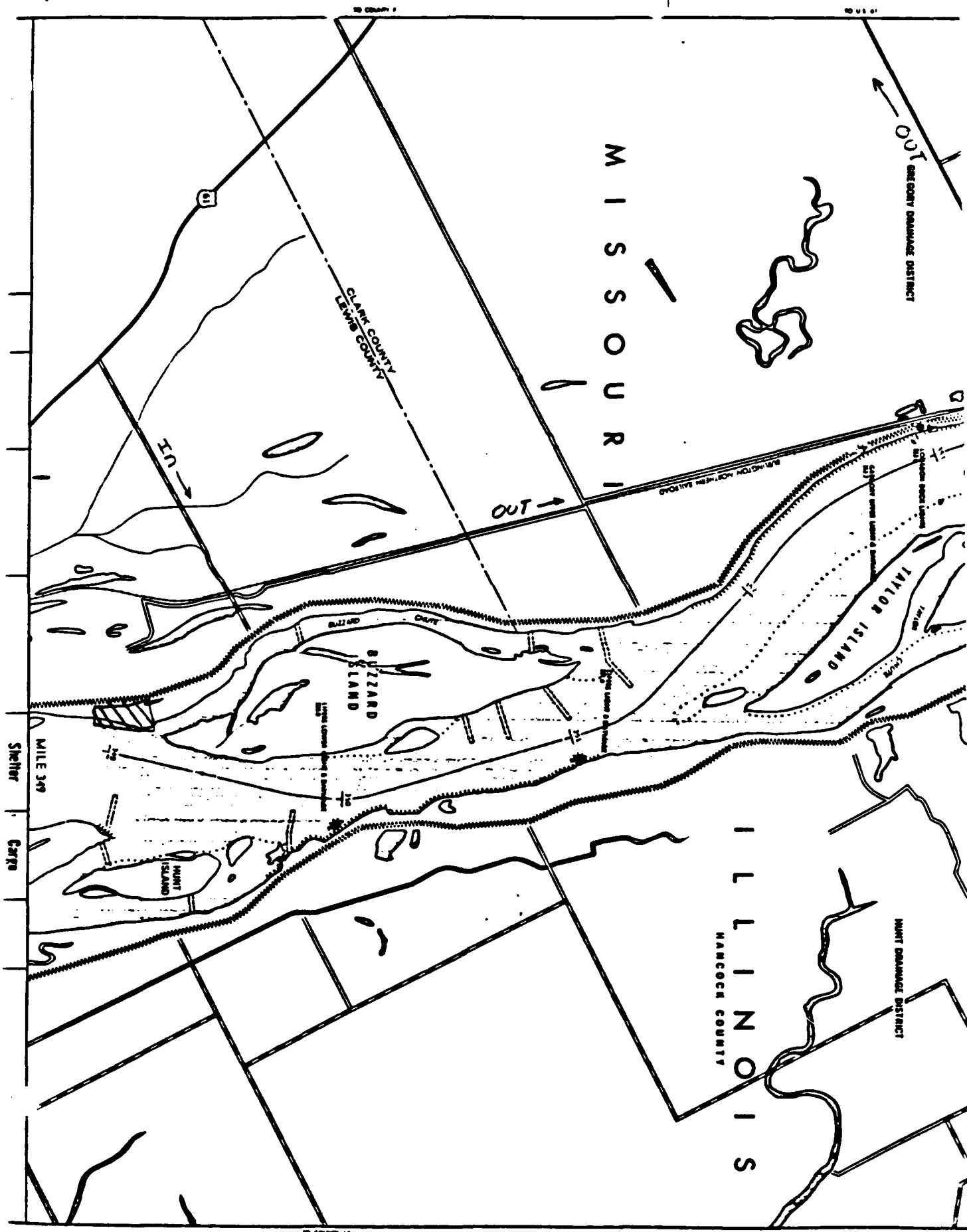
PD-R

PD-E

OD-SI

OD-MC

ED-DG (Borck)



HAROLD L. VOLKMER  
8TH CONGRESSIONAL DISTRICT  
MISSOURI

2411 RAYBURN HOUSE OFFICE BUILDING  
WASHINGTON DC 20515  
(202) 225-2856

HOUSE COMMITTEE ON  
AGRICULTURE

HOUSE COMMITTEE ON  
SCIENCE AND TECHNOLOGY

JAMES S. SPURLING  
ADMINISTRATIVE ASSISTANT

LEE VIOREL  
DISTRICT ADMINISTRATOR

**Congress of the United States**  
**House of Representatives**  
**Washington, DC 20515**

July 23, 1986

DISTRICT OFFICES  
ROOM 370  
FEDERAL BUILDING  
HANNIBAL MO 63401  
(314) 221-1200

812 E WALNUT  
COLUMBIA MO 65201  
(314) 448-5111

818 TERRA LANE  
P.O. BOX 218  
OFALLON MO 63366  
(314) 272-8272

122 BOURKE  
MACON MO 63552  
(816) 385-8615

317 LAFAYETTE  
P.O. BOX 228  
WASHINGTON MO 63080  
(314) 238-4001

COL. William C. Burns  
District Engineer  
Rock Island Corps of Engineers  
P.O. Box 2004  
Rock Island, IL 61204-2004

Dear COL. Burns:

I am writing in behalf of Mr. Jack Fierke, owner of Central Stone Rock Quarries.

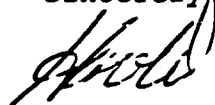
Jack has expressed his concerns to me about the Corps' policy of giving away sand and other dredge materials.

Enclosed is a copy of a Corps' letter he received from a former customer.

I would like to know if the Corps has any policy of subsidizing businesses that are economically affected by the Corps' actions.

Thank you for your cooperation. With best wishes, I am

Sincerely yours,



Harold L. Volkmer  
Member of Congress

HLV/bwh

encs.

July 28, 1986

Planning Division

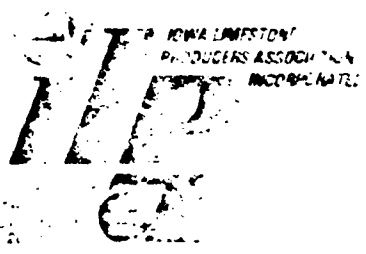
Mr. Kenneth W. McNichols  
Executive Director  
Iowa Limestone Producers Association, Inc.  
Suite F  
615 East 14th Street  
Des Moines, Iowa 50316

Dear Mr. McNichols:

The District is in receipt of your letter of July 9, 1986, and understands your concerns. The District has no intent of competing with the members of your organization or of any other organization for the processing, handling, or distribution of sand.

One mission of the Corps of Engineers, Rock Island District, is to operate and maintain the Nine-Foot channel within the District. One aspect of that maintenance activity is to dredge areas where the depth of the channel is less than 9 feet. The material is normally placed along beaches, and in some instances, stockpiled in areas that are accessible by local governments and the general public. Those stockpile areas are normally used over and over, as it minimizes environmental impacts associated with maintenance dredging.

I hope that we could get together in the near future to discuss our program with you and hopefully come to some working agreement that will benefit both the U.S. Government and the members of your organization. To that end, I understand that you will invite a representative from this office to a meeting of your group in November 1986 to discuss our program.



-2-

DOV E. F. CITY PRESIDENT • KENNETH W. MCNEIL

DEC 1971

Thank you very much for your time and consideration. If you have any additional concerns, please feel free to call Mr. George Wells of my staff at 309/788-6361, Ext. 342, or write to the following address:

District Engineer  
U.S. Army Engineer District, Rock Island  
ATTN: Planning Division  
Clock Tower Building - P.O. Box 2004  
Rock Island, Illinois 61204-2004

Sincerely,

**ORIGINAL SIGNED BY**

Dudley M. Hanson, P.E.  
Chief, Planning Division

As a recent user of dredged material, you are offering to give away, free of charge, several locations along the Mississippi River.

CF:  
Dist File (PD)  
PD (Hanson)  
PD-R  
PD-E  
OD  
OD-M  
OC

Members of the Iowa Limestone Producers Association are very strongly opposed to competing with other departments and agencies such as the Corps of Engineers. The membership of this association is primarily composed of local companies whose family members have invested millions of dollars in the aggregate industry.

In order for us to extract and sell a similar product, our members must have permits from several agencies, such as the Iowa Department of Natural Resources, the Department of Agriculture, Federal Mine Safety and Health Administration, E.P.A., and Corps of Engineers. This costs us money. You don't have to pay for the permits of the regulators mentioned above. The cost of the permits is covered by taxpayer dollars. If we are allowed to take business from local companies, we will be taking business from local companies and other local companies.

WEAL  
ROR  
DUPRE  
PD-R  
PD-R  
PD-R

SCBN  
PD

HANS

71

August 6, 1986

Planning Division

Honorable Harold L. Volkmer  
House of Representatives  
Washington, D.C. 20515

Dear Mr. Volkmer:

This is in response to your July 23, 1986, letter regarding the Corps' policy of giving away sand and other dredged material.

The Corps of Engineers, Rock Island District, has the responsibility to operate and maintain the Mississippi River Nine-Foot Navigation Channel project, authorized by Congress in 1930, from Guttenberg, Iowa, to Saverton, Missouri.

One part of the District's annual channel maintenance program is to dredge those portions of the authorized channel which have shoaled and impeded the navigation capacity of the system. Guidance from the Office of the Chief of Engineers in Washington, D.C. is to place dredged material at locations that are the most cost-effective to the Government. The District normally disposes of dredged material on islands and along beaches. In some instances, material is stockpiled in areas that are accessible by land. The District's policy has been to allow the general public, State, county, and local entities to remove the material, as needed, at no charge. The continual use of designated stockpile sites not only helps to minimize the cost of maintaining the Nine-Foot Channel project, but also helps to reduce environmental impacts associated with dredged material disposal.

In June 1986, the District distributed a survey to approximately 450 State agencies, local governments, and private companies. The survey listed existing dredged material stockpile sites and requested information about the use and potential need for dredged material. The intent of the survey was to hopefully find (1) potential

stockpile sites to help minimize the cost of maintaining the Nine-Foot Channel, (2) potential users of the material, and (3) locations which would minimize environmental impacts. The results of that survey are being tabulated at this time and will be forwarded to you when they are completed.

The Corps of Engineers does not have a policy of subsidizing businesses that are economically affected by the maintenance activities related to the Nine-Foot Channel.

If you have any additional concerns related to this matter, please call Mr. George R. Wells of my staff at 309/788-6361, Ext. 342, or write to the following address:

District Engineer  
U.S. Army Engineer District, Rock Island  
ATTN: Planning Division  
Clock Tower Building - P.O. Box 2004  
Rock Island, Illinois 61204-2004

Sincerely,

**ORIGINAL SIGNED BY**

William C. Burns  
Colonel, Corps of Engineers  
District Engineer

**Copy Furnished:**

Honorable Harold L. Volkmer  
Representative in Congress  
Federal Building, Room 370  
Hannibal, Missouri 63401

CDR USACE (DAEN-CWP)  
WASH D.C. 20314-1000

CDR USACE (DAEN-CWZ-N)  
WASH D.C. 20314-1000

Commander, North Central Division  
ATTN: NCDPD

Dist File (PD)  
PD (Hanson)

✓ PD-R

OD

OD-M

OC

PA

# **NSA NATIONAL STONE ASSOCIATION**

1415 ELLIOT PLACE, N.W. • WASHINGTON, D.C. 20007 • 202-342-1100

CF: \_\_\_\_\_

PD *pic* \_\_\_\_\_

PD-C \_\_\_\_\_

PD-E \_\_\_\_\_

PD-F \_\_\_\_\_

PD-P \_\_\_\_\_

PD-R ☒ \_\_\_\_\_

August 6, 1986

Mr. Dudley M. Hanson, P.E.  
Chief, Planning Division  
Department of the Army  
Rock Island District Corps of Engineers  
Clock Tower Building  
Rock Island, IL 61204-2004

Dear Mr. Hanson:

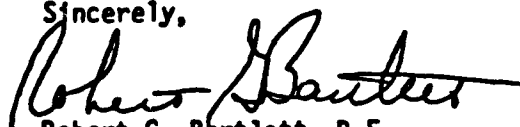
I am writing on behalf of aggregate producers in general and midwest limestone producers in particular to urge the Corps to abandon its plan as noted in your letter of June 20, 1986 to Potential Users of Dredged Material. That letter describes necessary dredging of the Mississippi River and the proposal for the material to be used for construction fill, winter ice control, bituminous mix, concrete production and recreational uses.

We endorsed the contents of the July 9, 1986 letter sent to you from Ken McNichols, Executive Director of the Iowa Limestone Producers Association. Ken's letter spells out their correct and strong negative reaction to a public agency effort to enter the commercial market, normally the province of private industry. We agree very much with his well stated position.

Therefore, I respectfully suggest that you reevaluate your proposed "disposal plan" and develop a different approach that meets the need to maintain river depth and support environmental concerns but at the same time does not interfere with commercial sale of aggregate material.

Thank you for your consideration.

Sincerely,

  
Robert G. Bartlett, P.E.  
President

RGB/pjb

cc: D. Prouty  
K. McNichols

HAROLD L. VOLKMER  
8TH CONGRESSIONAL DISTRICT  
MISSOURI

3411 RAYBURN HOUSE OFFICE BUILDING  
WASHINGTON DC 20515  
(202) 225-2958

HOUSE COMMITTEE ON  
AGRICULTURE

HOUSE COMMITTEE ON  
SCIENCE AND TECHNOLOGY

JAMES S. SPURLING  
ADMINISTRATIVE ASSISTANT

LEE VIOREL  
DISTRICT ADMINISTRATOR

**Congress of the United States**  
**House of Representatives**  
**Washington, DC 20515**

August 14, 1986

REPLY TO DISTRICT OFFICES  
ROOM 370  
FEDERAL BUILDING  
HANNIBAL MO 63401  
(314) 221-1200

812 E WALNUT  
COLUMBIA MO 65201  
(314) 448-5111

818 TERRA LANE  
P.O. BOX 218  
OFALLON MO 63366  
(314) 272-8272

122 BOURKE  
MACON MO 63552  
(816) 385-5815

317 LAFAYETTE  
P.O. BOX 228  
WASHINGTON MO 63080  
(314) 238-4001

COL. William C. Burns  
District Engineer  
Rock Island Corps of Engineers  
P.O. Box 2004  
Rock Island, IL 61204-2004

Dear COL. Burns:

I am writing in regard to my past correspondence in  
behalf of Mr. Jack Fierke of Hannibal, Missouri.

In your letter of August 6th, you stated the survey was  
not yet completed. Jack advises me that some of his  
former customers are already obtaining dredged materials  
at no cost.

I would appreciate it if you would look into this matter  
and provide my Hannibal Office with information that would  
allow me to respond to Jack.

Thank you and with best wishes, I am

Sincerely yours,



Harold L. Volkmer  
Member of Congress

HLV/bp

August 22, 1986

Planning Division

Honorable Harold L. Volkmer  
Representative in Congress  
Federal Building, Room 370  
Hannibal, Missouri 63401

Dear Mr. Volkmer:

This is in response to your August 14, 1986, letter, concerning former customers of Mr. Jack Fierke who are allegedly obtaining dredged material at no cost.

In the Hannibal area, the Rock Island District presently disposes on two privately-owned stockpile sites, one at the City of LaGrange, and one at Northeast Missouri Power. At the LaGrange stockpile site, the city uses the material for winter sanding of roads and currently is the only user. Previously, two construction concerns removed material from the pile without the permission of the city. This unauthorized removal has been stopped by the city. At the Northeast Missouri Power site, the city of Palmyra and Marion County also remove material for winter sanding of streets and roads.

If the stockpile sites and users mentioned above are not those that Mr. Fierke is referring to, please inform us of the former customers' names and where they are currently removing material, so that the District can look into the matter further.

I trust this information meets your present needs. If you have additional concerns related to this matter, please call Mr. Darren L. Miles of my Waterways Planning

and Services Branch at 309/788-6361, Ext. 400, or write to the following address:

District Engineer  
U.S. Army Engineer District, Rock Island  
ATTN: Planning Division  
Clock Tower Building - P.O. Box 2004  
Rock Island, Illinois 61204-2004

Sincerely,

ORIGINAL SIGNED BY

William C. Burns  
Colonel, Corps of Engineers  
District Engineer

Copy Furnished:

Honorable Harold L. Volkmer  
House of Representatives  
Washington, D.C. 20515

CDR USACE (DAEN-CWP)  
WASH D.C. 20314-1000

CDR USACE (DAEN-CWZ-N)  
WASH D.C. 20314-1000

Commander, North Central Division  
ATTN: NCDPD

Dist File (PD)

PD (Hanson)

✓ PD-R

OD

OD-M

OC

PA

# TELEPHONE OR VERBAL CONVERSATION RECORD

For use of this form, see AR 340-15; the proponent agency is The Adjutant General's Office.

DATE

9/16/86

SUBJECT OF CONVERSATION

Shiloh Road Bridge Improvement (Lewis Co. Mo.)

INCOMING CALL		
PERSON CALLING <i>Pete Lewis Atkins</i> County Engineer (MO)	ADDRESS <i>63457</i> Courthouse, Moxie, Mo	PHONE NUMBER AND EXTENSION (314) 767-5212
PERSON CALLED Daron Niles	OFFICE NCR PD-R	PHONE NUMBER AND EXTENSION x 400
OUTGOING CALL		
PERSON CALLING	OFFICE	PHONE NUMBER AND EXTENSION
PERSON CALLED	ADDRESS	PHONE NUMBER AND EXTENSION

## SUMMARY OF CONVERSATION:

The County Engineer was asked if he could replace a present bridge (5 ton limit) with a culvert or upgrade it enough to allow large trucks (35 ton) to cross it. The request was made so that trucks could reach and remove material from the Buzzard Island Stockpile site.

He said the bridge could be upgraded, providing the pilings are sound, to a 35 ton limit by placing 3 to 4 additional I-beams across the span and tying them together. He didn't believe he could replace the bridge with a culvert.

An estimate of one month was given for completing the upgrading. He said he would notify the District when the work was done.

The District needs to acquire any necessary easements and arrange for improvement of the non-county section of road leading to the pile.

DENNIS W. SMITH  
FRED L. WESTHOFF

**SMITH & WESTHOFF**  
ATTORNEYS-AT-LAW  
329 LEWIS STREET  
P.O. BOX 308  
CANTON, MISSOURI 63435

PHONE 314-288-4461

November 17, 1986

District Engineer  
U.S. Army Corps of Engineers  
Clock Tower Building  
P.O. Box 2004  
Rock Island, IL 61204-2004

ATTN: Planning Division, Darin Niles

Re: Gregory Drainage District

Gentlemen:

I am writing to you on behalf of Gregory Drainage District as the legal representative of the District. Gregory Drainage District has been advised by the U.S. Army Corps of Engineers that it intends to engage in a sand removal project to eliminate a large deposit of sand that has occurred by virtue of Mississippi River dredging.

It is the understanding of the Gregory Drainage District that a portion of the sand removal operation will occur within the Gregory Drainage District and will involve area maintained by the Gregory Drainage District.

The purpose of this letter is to advise the U.S. Army Corps of Engineers that the Gregory Drainage District will cooperate with the Corps of Engineers and consent to the sand removal operation so long as the Gregory Drainage District Board of Directors receives assurances from the U.S. Army Corps of Engineers that the Corps of Engineers will assume all responsibility in connection with the sand removal, including responsibility for any damages that may occur, and responsibility for maintenance and repair of any damage that may occur as a result of the sand removal operation. In addition, the Gregory Drainage District would like an assurance from the Corps of Engineers that the Corps will be responsible for obtaining all necessary easements, rights-of-way and permits to engage in the sand removal operation.

U.S. Army Corps of Engineers  
November 17, 1986  
Page 2

If there is any question concerning the position of the Gregory Drainage District in regard to this matter, or if I can supply additional information, please feel free to contact the undersigned.

Yours very truly,

SMITH AND WESTHOFF

By: *Dennis W. Smith*  
Dennis W. Smith *DWS*

DWS:bw

pc: Mrs. Delores Leftwich, Secretary  
Gregory Drainage District  
R.R. 1  
Canton, MO 63435

January 16, 1967

Planning Division

Mr. Dennis W. Smith  
Attorney at Law  
329 Lewis Street  
P.O. Box 308  
Canton, Missouri 63435

Dear Mr. Smith:

This letter is in response to your letter of November 17, 1966, concerning the removal of dredged material from the Buzzard Island stockpile on land maintained by the Gregory Drainage District.

The Rock Island District appreciates the Drainage District's cooperation in consenting to the sand removal operation. We will repair any damages to the levee which occur as a result of the sand removal operation, and we will obtain any necessary easements, rights-of-way, and permits connected with the removal.

Presently, the Rock Island District is pursuing authority to obtain easements with property owners and funds for construction of the access road. After accomplishing this, a portion of the material will be placed into a pile on the opposite side of the levee and potential users notified that access to the stockpile is possible. The Drainage District will be informed before construction of the access road begins.

If you or the Drainage District Board of Directors has any additional concerns related to this matter, you may call Mr. Darron Niles of my staff at 309/788-6361, Ext. 400, or write to the following address:

District Engineer  
U.S. Army Engineer District, Rock Island  
ATTN: Planning Division  
Clock Tower Building - P.O. Box 2004  
Rock Island, Illinois 61204-2004

Sincerely,

ORIGINAL SIGNED BY

Neil A. Smart  
Colonel, Corps of Engineers  
District Engineer

CF:  
Dist File (PD) ✓ PD-R (Niles)

13 July 1987

MEMORANDUM FOR RECORD

SUBJECT: 10 July 1987 Site Visit for the Buzzard Island Dredge Cut

1. Attendance: Jody Millar - FWS                      Gordon Farabee - MODOC  
                  Darron Niles - PD-R                      Dan Sallee - ILDOC  
                  Bill Dieffenbach - MODOC                      Ed Walsh - ILDOC
2. The site visit was conducted to gather operational and environmental information for the 17 sites listed on the attached inventory sheet for the Buzzard Island dredge cut.
3. The information gathered at the sites was used by the FWS and the District to separately rank the sites. After comparing the separate rankings, a coordinated ranking of the sites was developed which reflects the least amount of environmental damage and the most operational feasibility.
4. The coordinated ranking for the Buzzard Island dredge cut is:
  1. GREAT Primary Site 20.25 (Existing Stockpile)
  - \*2. Thalweg Disposal
  3. Huff Island Shallow Water Habitat Creation

\* Thalweg disposal is recommended as the disposal site for 1987 dredging at this location.
5. Work to complete:
  - Send FWS list of sites the District would like eliminated or included as unranked alternatives from the original 17 sites. (OD-MC and PD-R)

*Darron Niles*

DARRON NILES  
Waterways Planning and Services Branch

CF:  
Dist File (PD)  
PD(Hanson)  
PD-R  
PD-E(Duyvejonck)  
OD-MC ✓  
OD-MC(Vale)

Operational Inventory of Potential Sites for the Buzzard Island Dredge Cut

Alternative Site Name and Location	Dredging Variables			Equipment Needed	Within Equipment Capabilities*	Potential for Beneficial Use	Land Ownership		Disposal Site Features and Requirements			
	Dredging Method	Floating Pipe	Shore Pipe				Access	Site	Pre-Disposal Description	Return Water	Site Preparation	Remarks
CREAT Primary Site 20.19 (Illinois)	Hydraulic-confined	11,100'	150'	Booster & bulldozers	yes, some potential material rehandling	31,550 cu. yd./yr.	private	private	agricultural field	direct to river	burning	--
CREAT Site 20.20 (Illinois)	Hydraulic-confined	11,100'	2100'	Booster & bulldozers	yes, some potential material rehandling	31,550 cu. yd./yr.	private	private	agricultural field	pumped from levee district	burning	behind levee
CREAT Site 20.21 (Missouri)	Hydraulic-confined	9100'	600'	Booster & bulldozers	yes, some potential material rehandling	79,850 cu. yd./yr.	private	private	agricultural field	pumped from levee district	burning	behind levee
CREAT Site 20.22 (Illinois)	Hydraulic-unconfined	4800'	---	Booster	yes, some potential material rehandling	Beach Nourishment	federal	private	dredged material	direct to river	--	--
CREAT Site 20.23 (Illinois)	Hydraulic-unconfined	5500'	---	Booster	yes, some potential material rehandling	Beach Nourishment	federal	private	dredged material	direct to river	--	--
CREAT Site 20.24 (Illinois)	Hydraulic-unconfined	4800'	---	Booster	yes	--	federal	private	lowland hardwoods	direct to river	clearing, burning	--
CREAT Primary Site 20.25 (Missouri) (existing stockpile)	Hydraulic-confined	3200'	400'	Booster & bulldozers	yes	79,850 cu. yd./yr.	private	private	beneficial use stockpile	through vegetation	burning	improve road to material
CREAT Site 20.26 (Illinois)	Hydraulic-confined	5000'	1300'	Booster & bulldozers	yes, some potential material rehandling	31,550 cu. yd./yr.	private	private	agricultural field	pumped from levee district	burning	behind levee
*Present equipment capabilities consist of 4800' of floating pipe and 2000' of shore pipe.												

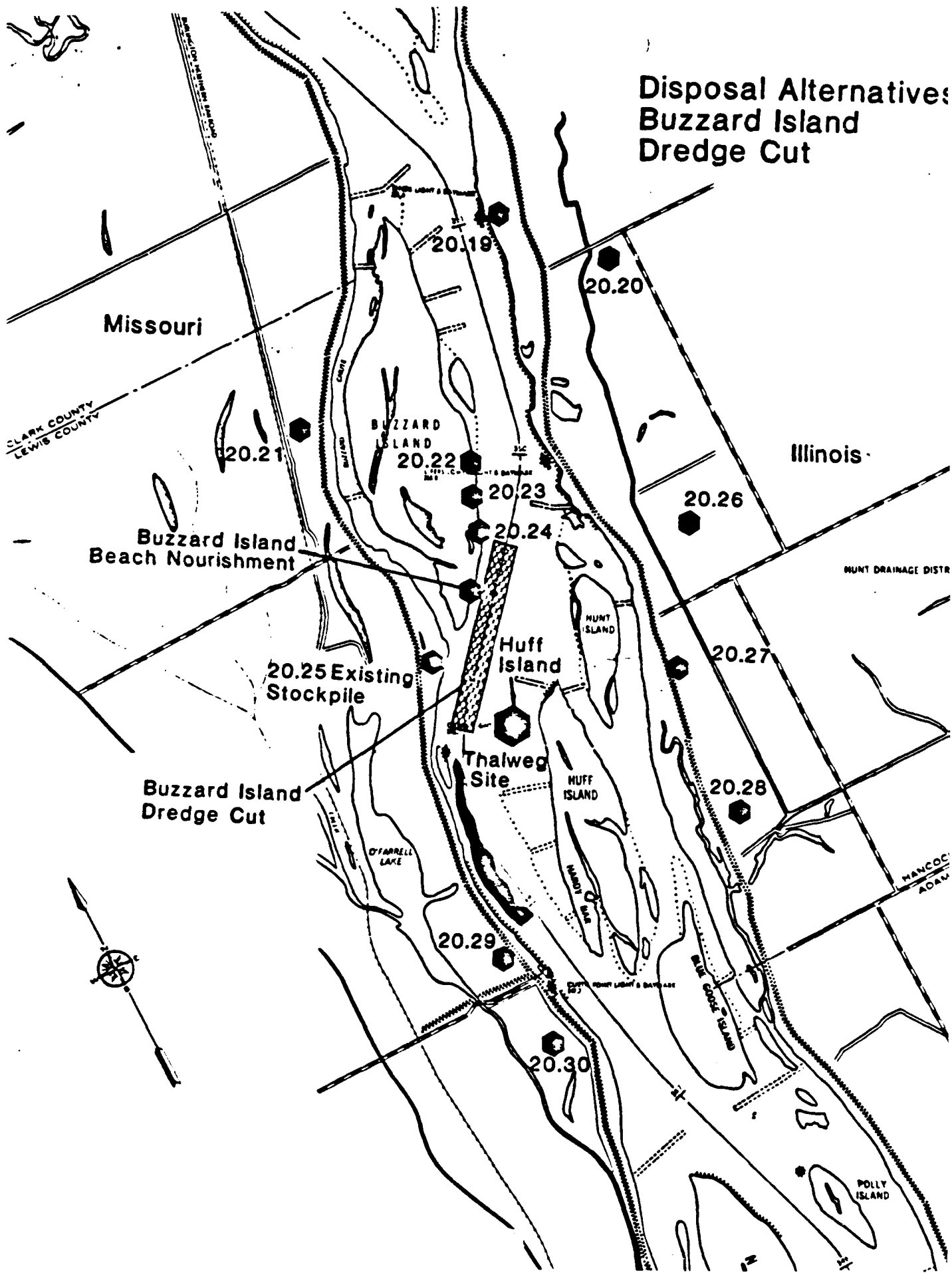
Operational Inventory of Potential Sites for the Buzzard Island Dredge Cut

Alternatives: Site Name and Location	Dredging Method	Dredging Variables			Potential for Beneficial Use	Land Ownership		Disposal Site Features and Requirements				
		Floating Pipe	Shore Pipe	Equipment Needed		Within Equipment Capabilities*	Access	Site	Pre-Disposal Description	Return Water	Site Preparation	Remarks
GREAT Site 20.27 (IL) (across Hunt Island)	Hydraulic- confined	4600'	1500'	Booster & Bulldozers	yes	31,350 cu. yd./yr.	private	private	agricultural field	pumped from levee district	berming	behind levee
GREAT Site 20.27 (IL) (around Hunt Island)	Hydraulic- confined	6700'	1100'	Booster & Bulldozers	yes, some potential material rehandling	31,350 cu. yd./yr.	private	private	agricultural field	pumped from levee district	berming	behind levee
GREAT Site 20.28 (Illinois)	Hydraulic- confined	7700'	1650'	Booster & Bulldozers	yes, some potential material rehandling	31,350 cu. yd./yr.	private	private	agricultural field	pumped from levee district	berming	behind levee
GREAT Site 20.29 (Missouri)	Hydraulic- confined	8900'	400'	Booster & Bulldozers	yes, some potential material rehandling	79,050 cu. yd./yr.	private	private	developed & lowland hardwoods	pumped from levee district	clearing, berming	behind levee
GREAT Site 20.30 (Missouri)	Hydraulic- confined	10,950'	400'	Booster & Bulldozers	yes, some potential material rehandling	79,050 cu. yd./yr.	federal	private	agricultural field	pumped from levee district	berming	behind levee
Buzzard Island (Illinois) (Historic Site)	Hydraulic- unconfined	4600'	---	Booster	yes	Beach Nourishment	federal	private	dredged material	direct to river	--	--
Huff Island Shallow Water Habitat Creation (Illinois)	Hydraulic- open water	4800'	---	Booster	yes	--	federal	federal	4' to 10' water	direct to river	riprap	island creation
Thalweg (Missouri) (RM 348.0-348.6)	Hydraulic- open water	6450'	---	Booster & Survey Boat	yes, some potential material rehandling	--	federal	federal	20'+ water	direct to river	river bottom surveys	thalweg
Reohub, Iowa+	Mechanical- barging (15 miles)	--	--	Contract	yes	163,800 cu. yd./yr.	private	private	developed	none	--	--
+Present equipment capabilities consist of 4800' of floating pipe and 2000' of shore pipe. +Beneficial Use Site Proposed by the Rock Island District.												

\*Present equipment capabilities consist of 4800' of floating pipe and 2000' of shore pipe.

\*Beneficial Use Site Proposed by the Rock Island District.

# Disposal Alternatives Buzzard Island Dredge Cut





## United States Department of the Interior

FISH AND WILDLIFE SERVICE

ROCK ISLAND FIELD OFFICE (ES)

1830 Second Avenue, Second Floor

Rock Island, Illinois 61201

IN REPLY REFER TO:

COM: 309/793-5800

FTS: 386-5800

August 18, 1987

Colonel Neil A. Smart  
District Engineer  
U.S. Army Engineer District  
Rock Island  
Clock Tower Building, P.O. Box 2004  
Rock Island, Illinois 61204-2004

Dear Colonel Smart:

Enclosed is the On-Site Inspection Team's submission for inclusion in the long-term site planning report for the ~~Savanna Bay~~ Buzzard Island dredge cuts. The ranking for the primary disposal sites has been approved by Team members. This should be considered the Team's final ranking of alternatives for these areas.

Sincerely,

*Jody Gustitus Millar*

Jody Gustitus Millar, Chairman  
On-Site Inspection Team

Enclosure

cc: Pools 13 & 20 OSIT

### General Ranking Process

For each site plan, an On-site Inspection Team (Team) meeting was convened at the site. All the alternatives originally proposed during the GREAT II process were reexamined in addition to any alternatives Team members proposed. At each site visited, habitats to be lost were enumerated on the worksheet. Dredging techniques, opportunities for beneficial use, mitigation and enhancement were also discussed. Ideally, one site would be selected for a dredge cut. However, in some cases several small sites appeared more suitable than one large one for the proposed 40-year period.

From the field worksheets and notes, alternatives were formally ranked environmentally and operationally. Several tools were used to rank the alternatives environmentally. At first, the ranking process was conceived to be a simple quantification of habitats lost due to disposal of dredged material. This process, however, did not take into account incremental habitat losses, mitigation or beneficial use. Habitat Evaluation Procedures were also proposed to be used in quantifying gains and losses over time and to analyze mitigation. It does not account for the administrative emphasis placed on beneficial use. To include beneficial use, the top site selection priorities of the Channel Maintenance Handbook were incorporated into the ranking.

The environmental ranking, then, cites beneficial use as the primary objective with removal from the floodplain as first priority and beneficial use within the floodplain as second priority (i.e. levee improvements). The second general category includes alternatives where proposed mitigation benefits would exceed habitat losses from disposal of dredged material. The third category includes sites where disposal would result in no net benefits and little loss of habitat value (row crop lands). The last grouping (Category 4) is sites where habitat losses exceed typical mitigation either because revegetation for wildlife benefits at the site is not prudent (public use) or because losses exceed revegetation benefits and additional measures were not proposed.

These four categories were integrated with operational considerations. The two major operational constraints are distance from the dredge cut and size of the disposal area. Sites that were operationally and environmentally feasible were included as "Primary Sites". Sites that were particularly desirable either operationally but not environmentally or vice-versa were left as "Unranked Alternatives" which may be reevaluated in the future. Sites which were totally undesirable were eliminated. Selection of primary, unranked and eliminated sites were made in the field by the Team. Primary sites were further ranked through a negotiation process between the Team Chairman and Operations staff based on environmental categories described above and technical constraints. This coordinated ranking was voted on by respective Team voting members and either accepted or reanalyzed, the objective being to gain consensus by all voting members. In some cases, a consensus was reached at the site meetings.

Habitat Evaluation Procedures were generally performed only for Category 2 sites. The methodology was habitat based, and is similar to the Method for Habitat Impacts and Mitigation for the Evaluation of Dredged Material, Appendix A of the Pool 11 Dredged Material Disposal Plan. The habitat suitability index values were derived from the Fish and Wildlife Interagency Committee's ranking of various typical habitats from 1-10. These values were divided by 10 (resulting in values of 0.1 - 1) to be consistent with standard habitat suitability index values. The period of analysis was 40 years.

### Buzzard Island Sites - Discussion

GREAT Sites - 20.19, 20.20, 20.21, 20.26, 20.27, 20.28, 20.29, 20.30 - All these sites are agricultural fields on the Illinois and Missouri banks. No effort has been made to evaluate the feasibility of these sites. The Team recommended leaving them in the plan as unranked alternatives because work to date on the access road to the stockpile is not assured.

GREAT Sites - 20.22, 20.23, 20.24, Buzzard Island Beach Nourishment - These sites are all located on the main channel side of Buzzard Island, upstream of the lower tip, r.m. 349.5 to r.m. 350.0. Placing material along this island bank has the potential to adversely affect fishery resources. The earthen embankment appears to be fairly stable. Placement of sand along the shoreline fills in undercut holes which serve as shelter areas for flathead catfish and other fish species. To minimize erosion of sand into non-disposal areas, further disposal here has been discouraged.

GREAT Site - 20.25 - This stockpile site now covers about 11.5 acres. The middle of the stockpile is very high (about 30 feet) and additional material would further encroach into the woodland. In 1986, the Rock Island District surveyed various groups for interest in use of dredged material. Respondants in the area of Buzzard Island said they could use material totalling about 80,000 cubic yards per year. The problem was access to the stockpile. The existing road was not suitable for truck traffic.

To promote beneficial use, the Rock Island District is working toward design plans to improve the access road. Construction is proposed to begin in 1988. In addition, the county has agreed to upgrade the bridge crossing. The removal of the stockpiled sand for beneficial use will allow future channel maintenance disposal with no additional adverse impacts to fish and wildlife.

Once this program has stabilized, the central 5+ acres should be reserved for disposal and beneficial use and the upstream and downstream areas should be revegetated with trees and shrubs beneficial to wildlife. This beneficial use alternative proposes the best solution for disposal of dredged material from the recurrent Buzzard Island dredging problem.

Thalweg Disposal - A large main channel scour hole lies downstream of the historic dredge cut. The scour area extends along the Missouri side of the channel from the light and daymark at river mile 348.7 downstream to r.m. 346.6. This site was investigated for potential adverse effects to aquatic resources from thalweg disposal by performing a mussel survey and by examining the sediments. The results from these two studies are included as Attachments 1 and 2. In general, the diving mussel survey

found no mussels in the area proposed for thalweg disposal. The diver reported an extremely strong current with sand substrate making diving and anchoring difficult. Sediment sampling performed by the Rock Island District showed the substrate to be sand ranging from fine sand to gravel.

To minimize further destruction to woodlands adjacent to the stockpile site (while access for beneficial use is still unavailable), the Team recommended material dredged in 1987 be disposed in the downstream scour hole. Parameters recommended for this disposal and for future disposals are as follows:

- 1) Depth soundings in the immediate and downstream vicinity of the disposal should be done before disposal, after disposal (before spring floods) and after spring floods; 2) Disposal should begin at the upstream end and be kept to the channel side of the scour area; 3) Results of the soundings should be reviewed before future thalweg disposals are proposed.

Island Creation - Island creation was recommended to increase near shore habitat. Proposed areas for placement include the channel sides of Hunt or Huff Islands. Concern was expressed that the island may erode away unless it was riprapped or offered some other kind of protection. In addition, the hydraulic effects to that section of the river need to be considered. This alternative should be investigated for hydraulic effects and habitat enhancement including comparison to other similar projects proposed on the Upper Mississippi River.

Table 1.

Buzzard Island Site Ranking

<u>Site</u>	<u>Overall Coordinated Ranking</u>	<u>Analysis</u>
Beneficial Use Stockpile 349.0R	1	Improvement of the access road by the Corps of Engineers will make the material available to local users. Depletion of the pile from beneficial use should allow continued disposal of dredged material into this site without further adverse impacts to fish and wildlife.
Thalweg Disposal 348-348.7R	2	An April 1987 diving mussel survey showed no mussels in the thalweg area. Sediment sampling showed substrate as fine sand and gravel. The current was reported as very strong. Thalweg disposal should be monitored by taking depth soundings before disposal, after disposal (pre-flood) and after the next flood event.
Island Creation + 348.7L	3	This alternative needs to be examined hydraulically and environmentally in terms of where the island should be placed, what size should it be and what can be done to prevent it from eroding away. These need to be determined before it is implemented.
Agricultural lands, Buzzard Island shoreline		Examine as necessary for future needs.

Table 2.

<u>Alternatives: Site Name and Location</u>	<u>Acres</u>	<u>Habitat Types</u>	<u>HEP Performed</u>	<u>Mitigation</u>	<u>OSIT Comments</u>
<u>Buzzard Island</u>					
20.19, 20.20, 20.21, 20.26, 20.27, 20.28, 20.29, 20.30		Agricultural lands	No		1. Sites not evaluated--set aside for possible future use.
20.22, 20.23, 20.24, Beach Nourishment	5 acres	Buzzard Island shoreline	No	Not determined	1. Placement of sand here may adversely affect the fisheries resource. 2. Evaluate benthic community before placing additional material.
20.25 Existing Stockpile, Potential Beneficial Use	10 acres	Sand stockpile	No	Avoid further loss of bottomland hardwoods. Develop bene- ficial use stockpile site.	1. OSIT commends the Rock Island District for their efforts towards developing access to this potential beneficial use site.
Thalweg disposal	25 acres	Main channel, primarily sand	diving, mussel survey performed	None	1. Review of diving survey indicates very swift current in thalweg and sand substrates. 2. No mussels were found in this area. No significant impacts should result from thalweg disposal.
Island creation	5 acres	Sand dunes	No	Island would increase habitat diversity. May need to be secured with riprap or placed below a wingdam.	1. Island proposal should be analyzed hydraulically to determine probable stability.

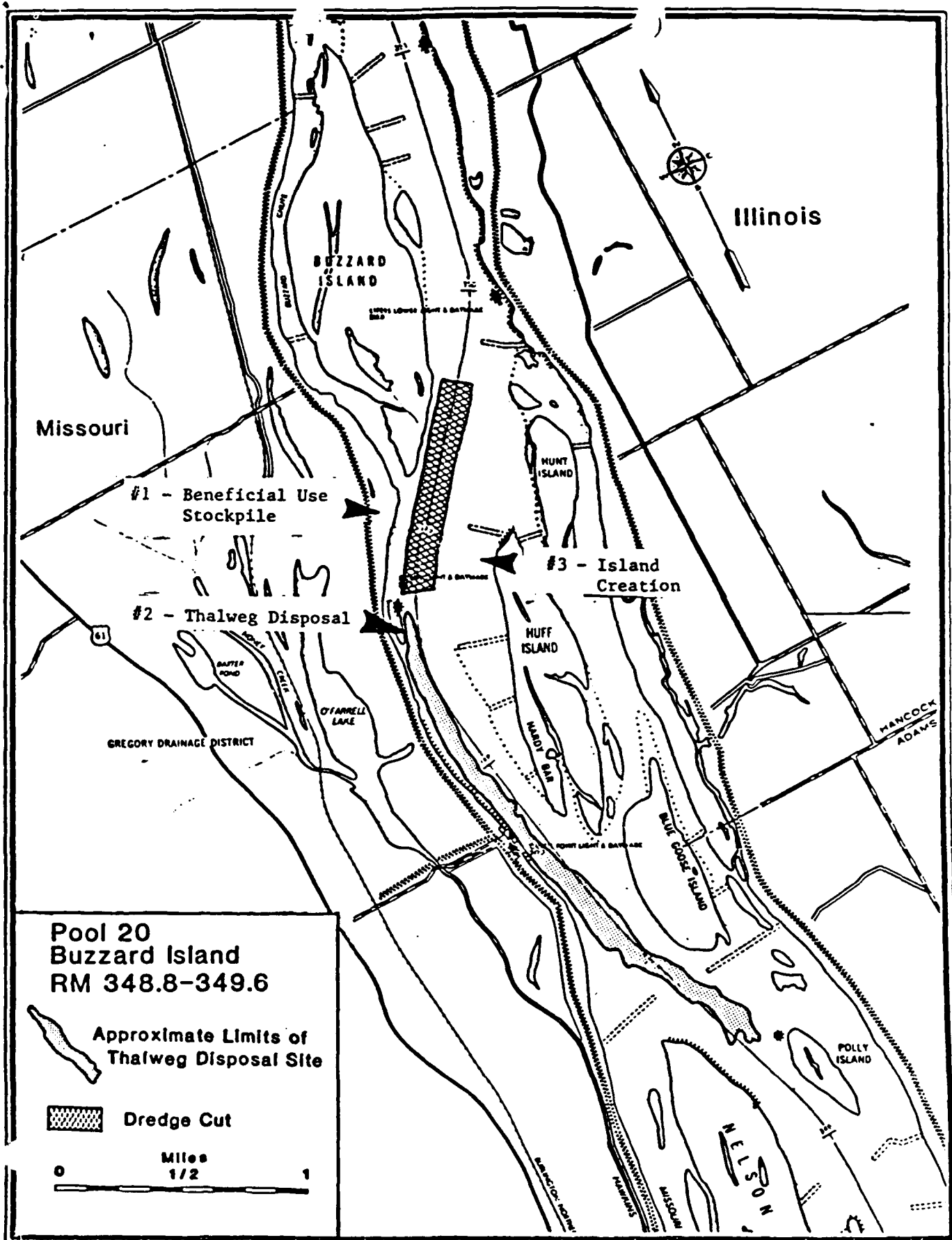


Figure 1

Buzzard Island - General Location Map

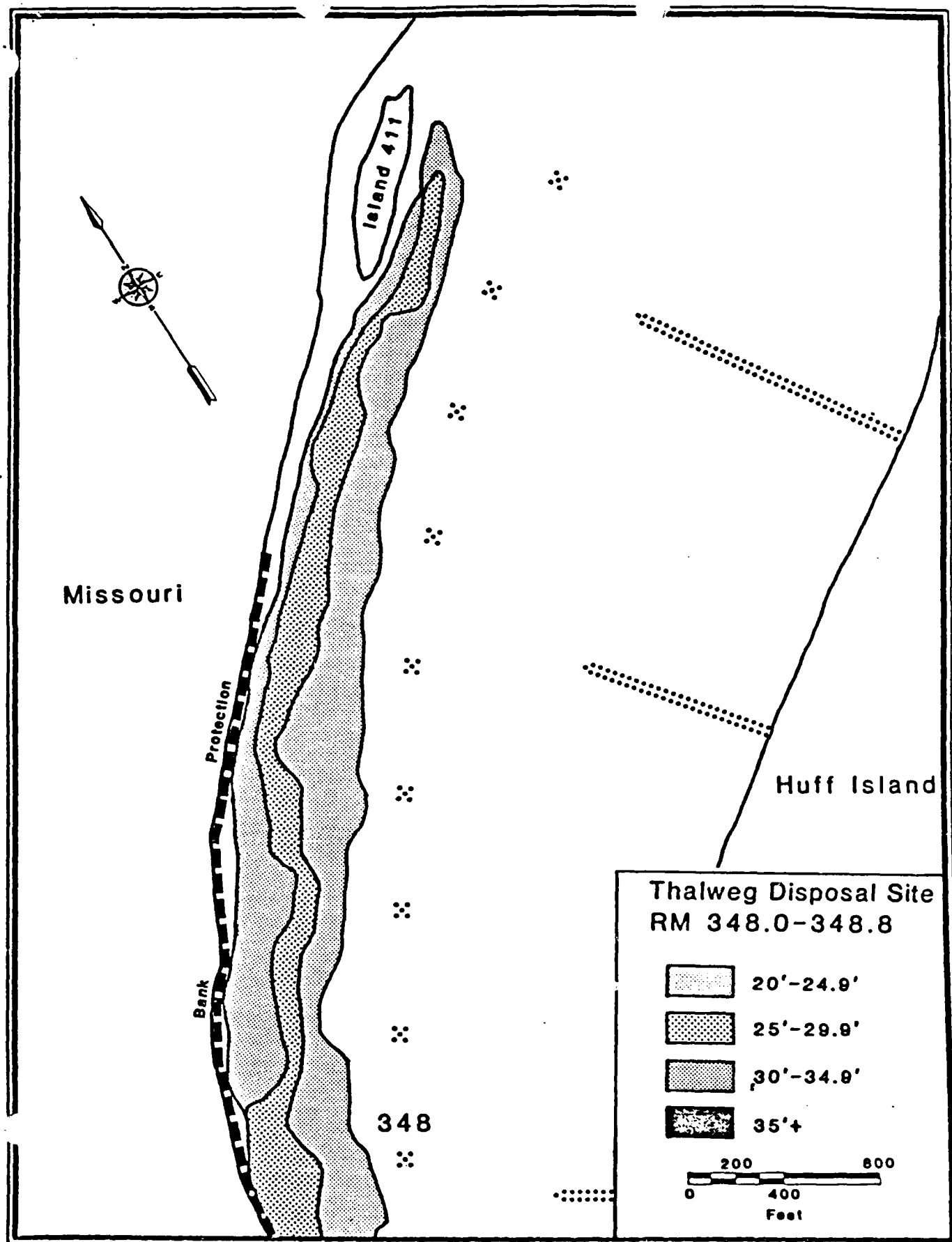
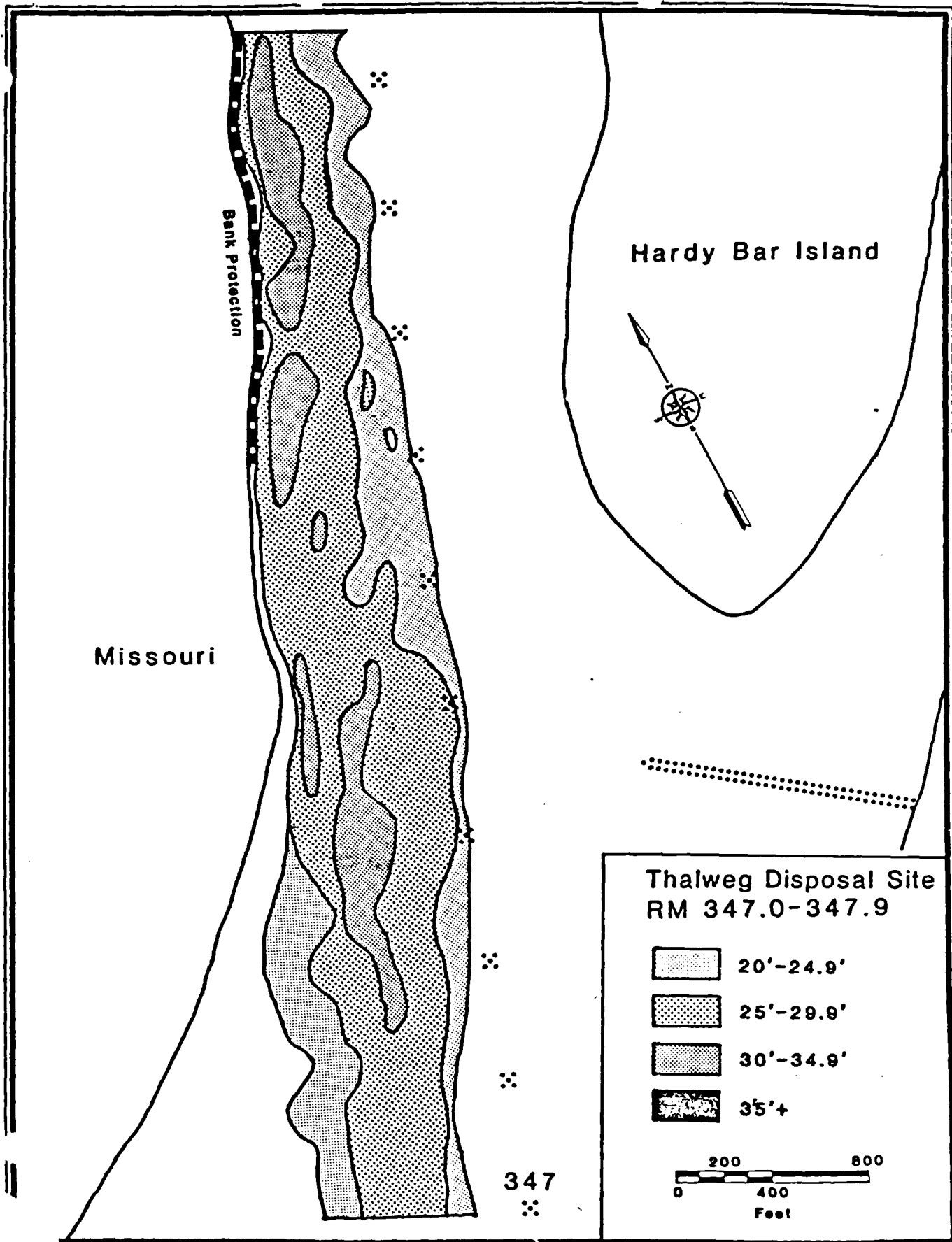


Figure 2

Buzzard Island - Contour Map #1



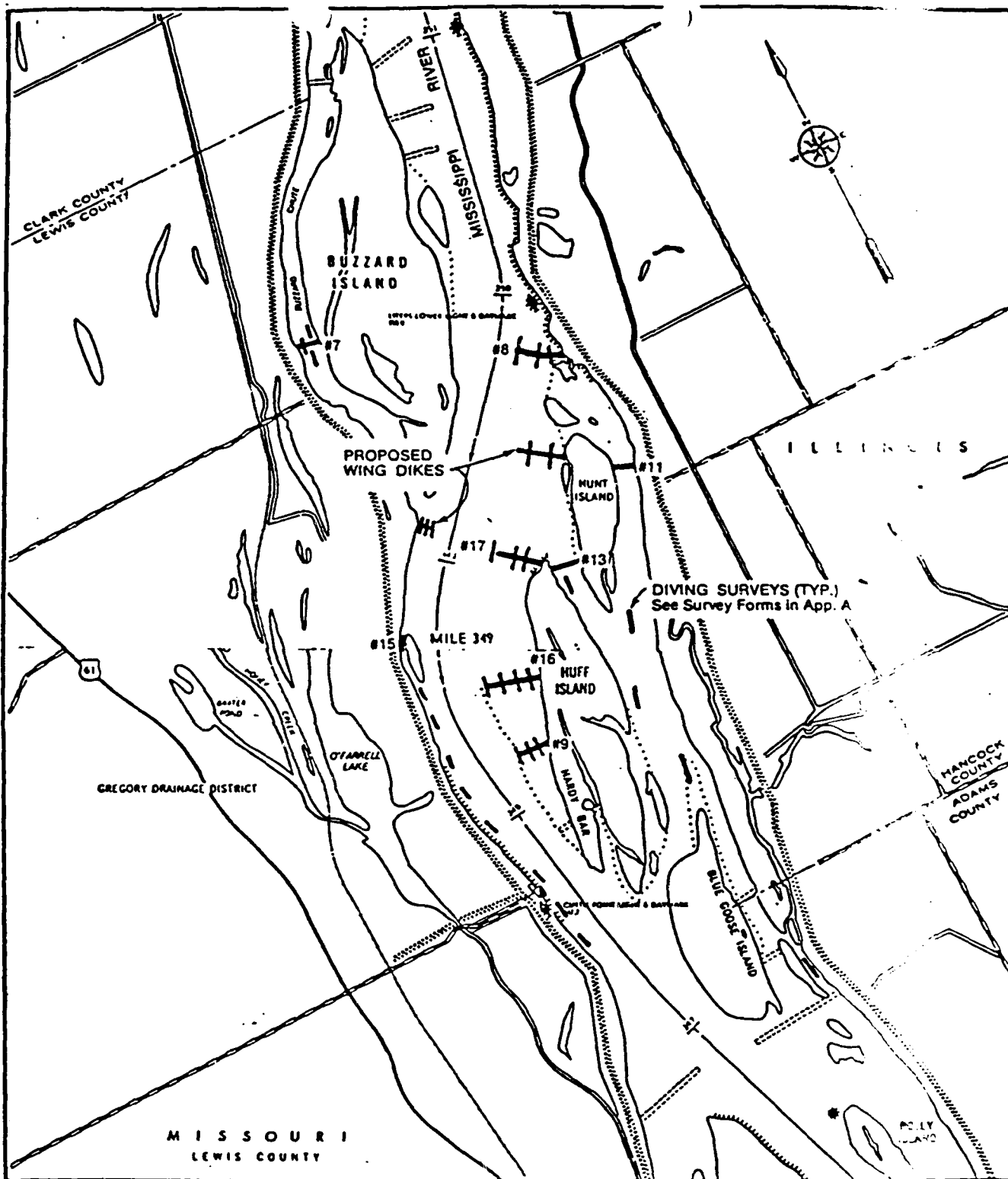
MUSSEL SURVEY  
POOLS 20 & 21  
MISSISSIPPI RIVER

Summary

A mussel survey was performed in Pools 20 and 21 of the Mississippi River to determine the presence or absence of mussels at specific locations. Substrate material was examined and documented at each location and bottom samples taken along the right bank between RM 347.5 and 348.7. Every effort was made to recover live specimens of Proptera capax since recently alive specimens of this species have been collected near the sampling locations.

The primary investigative method was diving but the diving survey was supplemented by wading shallow areas and by the use of a brail. No significant concentrations of mussels were encountered and no live or recent specimens of any endangered species, either P.capax or Lampsilis higginsii, were collected.

The substrate is predominately sand. Silt was encountered in a few areas near shore, in sluggish backwater areas and at the bottoms of deeper depressions. Gravel and small rock was encountered sporadically in small isolated pockets, usually in depressions and above wing and closing dikes.



SURVEY AREAS  
(DIVING SURVEYS)  
POOL 20

Figure 2

Date: 4-15-87

Mussel Survey  
Pools 20 & 21

Sample Type Diving

Sample Location RM 348.55 12.5' below small island  
135' from Missouri shore  
12' deep

Species

Three Ridge (Amblema plicata)  
Ebony Shell (Fusconaia ebenus)  
Pig Toe (F. flava)  
Washboard (Megalonaia nervosa)  
Bullhead (Plethobasus cyphus)  
Monkeyface (Quadrula metanevra)  
Warty Back (Q. nodulata)  
Pimple Back (Q. pustulosa)  
Maple Leaf (Q. quadrula)  
Floater (Anodonta grandis)  
Paper Pond Shell (Anodonta imbecillus)  
Rock Pocketbook (Arcidens confragosus)  
W. Heel Splitter (Lasmigona complanata)  
Squaw Foot (Strophitus undulatus)  
Mucket (Actinonaias carinata)  
Pocketbook (Lampsilis ventricosa)  
Fat Mucket (L. radiata siliquoidea)  
Yellow Sandshell (L. teres)  
Higgin's Eye (L. Higginsi)  
Fragile Paper Shell (Leptodea fragilis)  
Pink Paper Shell (L. laevissima)  
Black Sand Shell (Ligumia recta)  
3-Horned Warty Back (Oblivaria reflexa)  
Hickory Nut (Obovaria olivaria)  
Butterfly (Plagiola lineolata)  
Pink Heel Splitter (Proptera alata)  
Fawn's Foot (Truncilla donaciformis)  
Deer Toe (T. truncata)  
Spectacle-case (Cumberlandia monodonta)  
Pleurobema sp.  
Fat Pocketbook (Proptera cavax)  
Liliput (Toxolasma parvus)

Comments:

Strong Current  
Sand bottom - Sample #1  
Searched beneath & downstream of boat - no mussels

Date: 4-15-67

Mussel Survey  
Pools 20 & 21

Sample Type Diving

Sample Location RM 346.45 275' below small island  
75' from Missouri shore  
16' deep

Species

Three Ridge (Amblema plicata)  
Ebony Shell (Fusconaia ebenus)  
Pig Toe (F. flava)  
Washboard (Megalonaias nervosa)  
Bullhead (Plethobasus cyphus)  
Monkeyface (Quadrula metanevra)  
Warty Back (Q. nodulata)  
Pimple Back (Q. pustulosa)  
Maple Leaf (Q. quadrula)  
Floater (Anodonta grandis)  
Paper Pond Shell (Anodonta imbecillus)  
Rock Pocketbook (Arcidens confragosus)  
W. Heel Splitter (Lasmigona complanata)  
Squaw Foot (Strophitus undulatus)  
Mucket (Actinonaias carinata)  
Pocketbook (Lampsilis ventricosa)  
Fat Mucket (L. radiata siliquoidea)  
Yellow Sandshell (L. teres)  
Higgin's Eye (L. Higginsi)  
Fragile Paper Shell (Leptodea fragilis)  
Pink Paper Shell (L. laevissima)  
Black Sand Shell (Ligumia recta)  
3-Horned Warty Back (Obliquaria reflexa)  
Hickory Nut (Obovaria olivaria)  
Butterfly (Plagiola lineolata)  
Pink Heel Splitter (Proptera alata)  
Fawn's Foot (Truncilla donaciformis)  
Deer Toe (T. truncata)  
Spectacle-case (Cumberlandia monodonta)  
Pleurobema sp.  
Fat Pocketbook (Proptera capax)  
Liliput (Toxolasma parvus)

Comments:

Moderate Current

Light silt atop sand - Sample #2

Searched beneath & down stream of boat - no mussels

Date: 4-15-87

Mussel Survey  
Pools 20 & 21

Sample Type Diving

Sample Location RM 348.17  
100' from shore

Species

Three Ridge (Amblema plicata)  
Ebony Shell (Fusconaia ebenus)  
Pig Toe (F. flava)  
Washboard (Megalonaias nervosa)  
Bullhead (Plethobasus cyphus)  
Monkeyface (Quadrula metanevra)  
Warty Back (Q. nodulata)  
Pimple Back (Q. pustulosa)  
Maple Leaf (Q. quadrula)  
Floater (Anodonta grandis)  
Paper Pond Shell (Anodonta imbecillus)  
Rock Pocketbook (Arcidens confragosus)  
W. Heel Splitter (Lasmigona complanata)  
Squaw Foot (Strophitus undulatus)  
Mucket (Actinonaias carinata)  
Pocketbook (Lampsilis ventricosa)  
Fat Mucket (L. radiata siliquoidea)  
Yellow Sandshell (L. teres)  
Higgin's Eye (L. Higginsi)  
Fragile Paper Shell (Leptodea fragilis)  
Pink Paper Shell (L. laevissima)  
Black Sand Shell (Ligumia recta)  
3-Horned Warty Back (Obliquaria reflexa)  
Hickory Nut (Obovaria olivaria)  
Butterfly (Plagiola lineolata)  
Pink Heel Splitter (Proptera alata) 1 live  
Fawn's Foot (Truncilla donaciformis)  
Deer Toe (T. truncata)  
Spectacle-case (Cumberlandia monodonta)  
Pleurobema sp.  
Fat Pocketbook (Proptera cavax)  
Liliput (Toxolasma parvus)

Comments:

- Extremely strong current  
Rip-Rap bottom toward shore  
Only coarse sand downstream & riverward of boat - no sample; one live
- Cannot hold boat w/ diver over sand bottom  
Have to anchor in rock (outer edge of rip-rap) and have diver  
crawl down rip-rap slope to river bottom  
16' deep under boat but 25' deep where diver reaches sample,

Date: 4-15-87

Mussel Survey  
Pools 20 & 21

Sample Type Diving

Sample Location RM 348.30 1625' on small is  
100' from shore  
25' deep

Species

Three Ridge (Amblema plicata)  
Ebony Shell (Fusconaia ebenus)  
Pig Toe (F. flava)  
Washboard (Megalonaias nervosa)  
Bullhead (Plethobasus cyphus)  
Monkeyface (Quadrula metanevra)  
Warty Back (Q. nodulata)  
Pimple Back (Q. pustulosa)  
Maple Leaf (Q. quadrula)  
Floater (Anodonta grandis)  
Paper Pond Shell (Anodonta imbecillus)  
Rock Pocketbook (Arcidens confragosus)  
W. Heel Splitter (Lasmigona complanata)  
Squaw Foot (Strophitus undulatus)  
Mucket (Actinonaias carinata)  
Pocketbook (Lampsilis ventricosa)  
Fat Mucket (L. radiata siliquioidea)  
Yellow Sandshell (L. teres)  
Higgin's Eye (L. Higginsi)  
Fragile Paper Shell (Leptodea fragilis)  
Pink Paper Shell (L. laevissima)  
Black Sand Shell (Ligumia recta)  
3-Horned Warty Back (Obliquaria reflexa)  
Hickory Nut (Obovaria olivaria)  
Butterfly (Plagiola lineolata)  
Pink Heel Splitter (Proptera alata)  
Fawn's Foot (Truncilla donaciformis)  
Deer Toe (T. truncata)  
Spectacle-case (Cumberlandia monodonta)  
Pleurobema sp.  
Fat Pocketbook (Proptera cavax)  
Liliput (Toxolasma parvus)

Comments:

Very strong current - extra  
Small pockets of small rocks but primarily  
coarse sand - Sample #3  
Searched beneath boat & slightly downstream - no mussels

Mussel Survey  
Pools 20 & 21

Sample Type Diving Sample Location RM 348.0

50' from sh  
16' deep @

Species

Three Ridge (Amblema plicata)  
Ebony Shell (Fusconaia ebenus)  
Pig Toe (F. flava)  
Washboard (Megaloniais nervosa)  
Bullhead (Plethobasus cyphus)  
Monkeyface (Quadrula metanevra)  
Warty Back (Q. nodulata)  
Pimple Back (Q. pustulosa)  
Maple Leaf (Q. quadrula)  
Floater (Anodonta grandis)  
Paper Pond Shell (Anodonta imbecillus)  
Rock Pocketbook (Arcidens confragosus)  
W. Heel Splitter (Lasmigona complanata)  
Squaw Foot (Strophitus undulatus)  
Mucket (Actinoniais carinata)  
Pocketbook (Lampsilis ventricosa)  
Fat Mucket (L. radiata siliquoidea)  
Yellow Sandshell (L. teres)  
Higgin's Eye (L. Higginsi)  
Fragile Paper Shell (Leptodea fragilis)  
Pink Paper Shell (L. laevisima)  
Black Sand Shell (Ligumia recta)  
3-Horned Warty Back (Obliquaria reflexa)  
Hickory Nut (Obovaria olivaria)  
Butterfly (Plagiola lineolata)  
Pink Heel Splitter (Proptera alata)  
Fawn's Foot (Truncilla donaciformis)  
Deer Toe (T. truncata)  
Spectacle-case (Cumberlandia monodonta)  
Pleurobema sp.  
Fat Pocketbook (Proptera capax)  
Liliput (Toxolasma parvus)

Comments:

Extreme current - diver can't hold himself  
Small gravel off edge of rock  
Diver took sample but turned out to be rip-ra,  
in coarse sand - no sample  
  
Searched beneath boat in rocks @ 50' out @.don  
at edge of rip-rap - no mussels

Date: 4-15-87

Mussel Survey  
Pools 20 & 21

Sample Type Diving Sample Location RM 348.05

Species

50' from shore - over rip-rap  
16' deep @ boat but 29' deep off rock

Three Ridge (Amblema plicata)  
Ebony Shell (Fusconaia ebenus)  
Pig Toe (F. flava)  
Washboard (Megaloniais nervosa)  
Bullhead (Plethobasus cyphus)  
Monkeyface (Quadrula metanevra)  
Warty Back (Q. nodulata)  
Pimple Back (Q. pustulosa)  
Maple Leaf (Q. quadrula)  
Floater (Anodonta grandis)  
Paper Pond Shell (Anodonta imbecillus)  
Rock Pocketbook (Arcidens confragosus)  
W. Heel Splitter (Lasmigona complanata)  
Squaw Foot (Strophitus undulatus)  
Mucket (Actinonaias carinata)  
Pocketbook (Lampsilis ventricosa)  
Fat Mucket (L. radiata siliquoidea)  
Yellow Sandshell (L. teres)  
Higgin's Eye (L. Higginsi)  
Fragile Paper Shell (Leptodea fragilis)  
Pink Paper Shell (L. laevissima)  
Black Sand Shell (Ligumia recta)  
3-Horned Warty Back (Obliquaria reflexa)  
Hickory Nut (Obovaria olivaria)  
Butterfly (Plagiola lineolata)  
Pink Heel Splitter (Proptera alata)  
Fawn's Foot (Truncilla donaciformis)  
Deer Toe (T. truncata)  
Spectacle-case (Cumberlandia monodonta)  
Pleurobema sp.  
Fat Pocketbook (Proptera cavax)  
Liliput (Toxolasma parvus)

Comments:

Extreme current - diver can't hold himself on bottom w/o rocks  
Small gravel off edge of rock  
Diver took sample but turned out to be rip-rap chips & flakes  
in coarse sand - no sample  
  
Searched beneath boat in rocks & 50' out & downstream  
at edge of rip-rap - no mussels

Date: 4-15-87

Mussel Survey  
Pools 20 & 21

Sample Type Diving

Sample Location RM 347.67

100' from shore @ edge of rip-rap  
31' deep

Species

Three Ridge (Amblema plicata)  
Ebony Shell (Fusconaia ebenus)  
Pig Toe (F. flava)  
Washboard (Megalonaias nervosa)  
Bullhead (Plethobasus cyphus)  
Monkeyface (Quadrula metanevra)  
Warty Back (Q. nodulata)  
Pimple Back (Q. pustulosa)  
Maple Leaf (Q. quadrula)  
Floater (Anodonta grandis)  
Paper Pond Shell (Anodonta imbecillus)  
Rock Pocketbook (Arcidens confragosus)  
W. Heel Splitter (Lasmigona complanata)  
Squaw Foot (Strophitus undulatus)  
Mucket (Actinonaias carinata)  
Pocketbook (Lampsilis ventricosa)  
Fat Mucket (L. radiata siliquoidea)  
Yellow Sandshell (L. teres)  
Higgin's Eye (L. higginsii)  
Fragile Paper Shell (Leptodea fragilis)  
Pink Paper Shell (L. laevissima)  
Black Sand Shell (Ligumia recta)  
3-Horned Warty Back (Obliquaria reflexa)  
Hickory Nut (Obovaria olivaria)  
Butterfly (Plagiola lineolata)  
Pink Heel Splitter (Proptera alata)  
Fawn's Foot (Truncilla donaciformis)  
Deer Toe (T. truncata)  
Spectacle-case (Cumberlandia monodonta)  
Pleurobema sp.  
Fat Pocketbook (Proptera cavax)  
Liliput (Toxolasma parvus)

Comments:

Current impossible

w/ 85 lbs. of lead diver hits bottom w/ 100' of hose out  
crawled down rip-rap slope w/ difficulty & found only coarse  
sand & angular chips (rip-rap) - no sample

no searching done for mussels

Date: 4-15-87

Mussel Survey  
Pools 20 & 21

Sample Type Diving

Sample Location PM 347.50

50' from shore  
19' deep under boat

Species

Three Ridge (Amblema plicata)  
Ebony Shell (Fusconaia ebenus)  
Pig Toe (F. flava)  
Washboard (Megalonaias nervosa)  
Bullhead (Plethobasus cyphus)  
Monkeyface (Quadrula metanevra)  
Warty Back (Q. nodulata)  
Pimple Back (Q. pustulosa)  
Maple Leaf (Q. quadrula)  
Floater (Anodonta grandis)  
Paper Pond Shell (Anodonta imbecillus)  
Rock Pocketbook (Arcidens confragosus)  
W. Heel Splitter (Lasmigona complanata)  
Squaw Foot (Strophitus undulatus)  
Mucket (Actinonaias carinata)  
Pocketbook (Lampsilis ventricosa)  
Fat Mucket (L. radiata siliquoidea)  
Yellow Sandshell (L. teres)  
Higgin's Eye (L. Higginsi)  
Fragile Paper Shell (Leptodea fragilis)  
Pink Paper Shell (L. laevissima)  
Black Sand Shell (Ligumia recta)  
3-Horned Warty Back (Oblivaria reflexa)  
Hickory Nut (Obovaria olivaria)  
Butterfly (Plagiola lineolata)  
Pink Heel Splitter (Proptera slata)  
Fawn's Foot (Truncilla donaciformis)  
Deer Toe (T. truncata)  
Spectacle-case (Cumberlandia monodonta)  
Pleurobema sp.  
Fat Pocketbook (Proptera capax)  
Liliput (Toxolasma parvus)

Comments:

Extraneous current

Must be over rock (rip-rap) but still can't get boat to hold  
Each time diver begins to descend, boat breaks loose again  
Can't get to bottom - no sample

Date: 4-15-87

Mussel Survey  
Pools 20 & 21

Sample Type Diving Sample Location 100' below light (CIRM 347.7)  
at shore  
approx 35' deep @ edge of rip-rap

Species

Three Ridge (Amblema plicata)  
Ebony Shell (Fusconaia ebenus)  
Pig Toe (F. flava)  
Washboard (Megalonaias nervosa)  
Bullhead (Plethobasus cyphus)  
Monkeyface (Quadrula metanevra)  
Warty Back (Q. nodulata)  
Pimple Back (Q. pustulosa)  
Maple Leaf (Q. quadrula)  
Floater (Anodonta grandis)  
Paper Pond Shell (Anodonta imbecillus)  
Rock Pocketbook (Arcidens confragosus)  
W. Heel Splitter (Lasmigona complanata)  
Squaw Foot (Strophitus undulatus)  
Mucket (Actinonaias carinata)  
Pocketbook (Lampsilis ventricosa)  
Fat Mucket (L. radiata siliquoidea)  
Yellow Sandshell (L. teres)  
Higgin's Eye (L. Higginsi)  
Fragile Paper Shell (Leptodea fragilis)  
Pink Paper Shell (L. laevissima)  
Black Sand Shell (Ligumia recta)  
3-Horned Warty Back (Obliquaria reflexa)  
Hickory Nut (Obovaria olivaria)  
Butterfly (Plagiola lineolata)  
Pink Heel Splitter (Proptera alata)  
Fawn's Foot (Truncilla donaciformis)  
Deer Toe (T. truncata)  
Spectacle-case (Cumberlandia monodonta)  
Pleurobema sp.  
Fat Pocketbook (Proptera cavax)  
Liliput (Toxolasma parvus)

Comments:

Worst current yet  
Tied boat to shore  
Diver descended and crawled down rip-rip  
Reached outer edge of rock bank but only crawled a few feet  
onto river bottom before current slammed him back into rocks  
Found few small rocks among coarse sand - no sample  
Diver has no control (debris hanging up on hose) - returned  
w/o searching for mussels

Eleven samples were collected at the ten Buzzard Island stations shown in figure 31. Sample consistency ranged from fine sand to gravel (see table 6). Samples BI-3, BI-4, BI-5, BI-6, BI-9, and BI-10 contained primarily gravel, while BI-1, BI-2, BI-7, and BI-8 consisted of medium to fine sand.

Attachment 2

JUL 25 1987

TABLE 6  
MISSISSIPPI RIVER - BUZZARD ISLAND  
GRAIN-SIZE ANALYSIS OF SEDIMENT SAMPLES  
SUMMARY OF TESTING

U.S. STANDARD SIEVE SIZE OR NUMBER	PERCENT FINER BY WEIGHT										
	BI-1	BI-2	BI-3	BI-4	BI-5	BI-6	BI-7	BI-7 (DUP)	PI-8	BI-9	BI-10
2"	--	--	--	--	--	--	--	--	--	--	100.0
1 1/2"	--	--	100.0	100.0	100.0	100.0	--	100.0	--	100.0	74.4
1"	--	--	94.0	95.9	88.0	91.7	100.0	92.7	--	75.6	52.6
3/4"	--	--	78.3	86.7	72.8	60.5	86.3	86.2	--	69.8	52.6
1/2"	--	--	70.5	74.8	69.0	14.8	84.9	86.2	--	45.6	45.2
3/8"	100.0	100.0	59.3	55.5	57.5	3.7	82.0	80.9	100.0	32.2	37.9
#4	99.7	99.9	48.4	40.1	37.8	1.5	78.3	77.3	98.4	21.4	20.4
#8	99.4	98.7	42.1	34.1	23.2	1.2	74.4	74.0	98.0	16.2	7.6
#16	97.1	93.8	36.5	29.7	14.7	1.1	64.6	65.5	92.9	12.2	3.9
#30	81.0	65.6	24.6	22.2	9.2	0.6	39.8	42.2	62.2	6.3	2.4
#50	23.1	13.6	7.9	6.3	2.7	0.2	6.6	7.4	6.8	1.5	1.3
#70	7.8	3.4	3.8	2.6	0.8	0.1	0.8	0.9	1.8	0.6	0.7
#100	1.7	0.5	1.1	0.8	0.2	0.0	0.1	0.1	0.4	0.3	0.2
#200	1.7	0.2	0.2	0.2	0.1	0.0	0.1	0.1	0.1	0.1	0.1
#230	0.3	0.2	0.1	0.2	0.1	0.0	0.1	0.1	0.1	0.1	0.1
Classification	A	A	B	B	C	D	E	F	A	B	C

Notes:

- Visual classification of soils as stated below is in accordance with "The Unified Soils Classification System (USCS)".
  - SP brown medium to fine sand
  - GP brown sandy gravel, trace shells
  - GP brown sandy gravel
  - GP brown gravel, with shell
  - SP brown gravelly medium to fine sand, trace shell fragments
  - SP brown gravelly medium to fine sand
- Laboratory testing was performed in accordance with EM 111021906 dated 30 Nov 70, revised 01 May 80. All samples were oven dried at 105 degrees C drying temperature. Sample designated (DUP) is a duplicate sample.

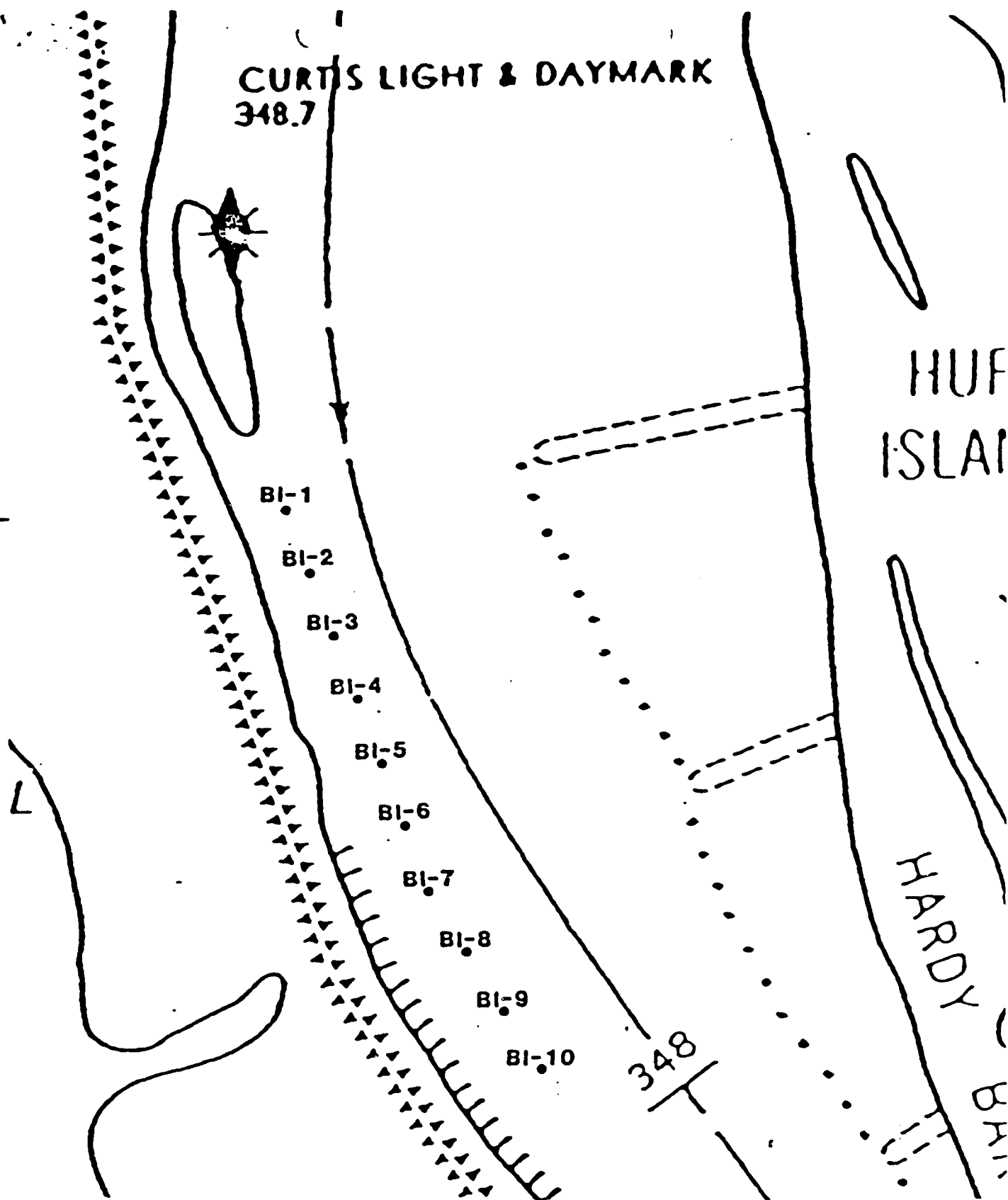


Figure 31. Sediment sampling stations at the Buzzard Island site.

ENVIRONMENTAL ASSESSMENT

A

P

P

E

N

D

I

X

B



REPLY TO  
ATTENTION OF

CENCR-PD-E

DEPARTMENT OF THE ARMY  
ROCK ISLAND DISTRICT CORPS OF ENGINEERS  
CLOCK TOWER BUILDING - P O BOX 2004  
ROCK ISLAND ILLINOIS 61204-2004

ENVIRONMENTAL ASSESSMENT

UPPER MISSISSIPPI RIVER  
BUZZARD ISLAND DREDGED MATERIAL BENEFICIAL USE ACCESS ROAD  
RIVER MILE 349, POOL 20

JUNE 1988

AD-A198 704

BUZZARD ISLAND DREDGED MATERIAL BENEFICIAL USE ACCESS  
ROAD UPPER MISSISSIPPI (U) ARMY ENGINEER DISTRICT ROCK  
ISLAND IL JUN 88

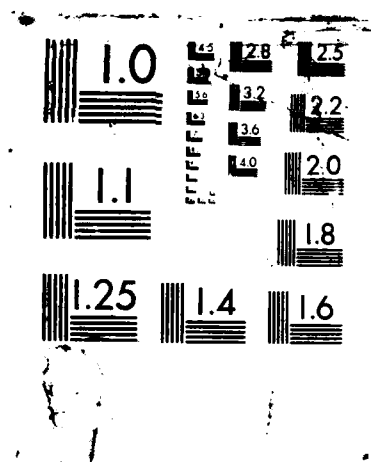
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## ENVIRONMENTAL ASSESSMENT

### UPPER MISSISSIPPI RIVER BUZZARD ISLAND DREDGED MATERIAL BENEFICIAL USE ACCESS ROAD RIVER MILE 349, POOL 20

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<u>No.</u>	<u>Title</u>
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2	Access Road Alternate Alignments

ATTACHMENTS:

Finding of No Significant Impact (FONSI)  
Correspondence  
Distribution List

## ENVIRONMENTAL ASSESSMENT

### UPPER MISSISSIPPI RIVER BUZZARD ISLAND DREDGED MATERIAL BENEFICIAL USE ACCESS ROAD RIVER MILE 349, POOL 20

#### Background Information.

The present Upper Mississippi River navigation system was initiated in 1930 when Congress passed the River and Harbor Act authorizing funds for its development. This Act, as amended in 1930, was interpreted by the Corps of Engineers to mean that it was to provide for a navigation channel that was a minimum of 300 feet wide and 9 feet deep. In addition to dams and closing structures, the Corps of Engineers uses wing dikes augmented by dredging to maintain the 9-foot navigation channel.

#### I. Purpose and Need for Action.

The purpose of this project is to provide an access road to the Buzzard Island dredged material placement site. The site is located in the Gregory Drainage District on the Mississippi River (River Mile 349), in Lewis County, Missouri, approximately 7 miles north of the city of Canton (plate 1).

#### II. Project Description.

The Mississippi River is subject to excessive sediment deposition near Buzzard Island, and this chronic shoaling requires recurrent dredging to maintain the 9-foot navigation channel. As a historical placement area for Mississippi River dredged material, the Buzzard Island stockpile has "grown" to approximately 700,000 cubic yards of material, currently averaging 71,604 cubic yards annually. Presently, the material covers about 20 acres and is 30 feet high in some places.

Recommendations concerning the site were received from the Great River Environmental Action Team (GREAT II) study and an On-Site Inspection Team (OSIT), comprised of representatives from the U.S. Fish and Wildlife Service, Missouri and Illinois Departments of Conservation, and the Corps of Engineers. The results of the GREAT II study and the OSIT require that the dredged material be made accessible to the general public for beneficial use before placing any more material at the Buzzard Island site. As a beneficial use area, this requirement will help prevent further encroachment on nearby woodlands, but will allow continued use of the placement site.

Construction of this proposed project would be funded under the authority of the Rivers and Harbors Act of 1930 which authorizes construction and maintenance of the 9-foot Mississippi River navigation channel.

### III. Alternatives.

A. Preferred Alternative. The preferred alignment, referred to as the North Alignment (see plate 2), consists of two phases of construction. The first phase involves the county upgrading Shiloh County Road to the west of the Burlington Northern tracks. This will ultimately provide a two-lane crushed stone surface from U.S. Highway 61 to the Burlington Northern Railroad tracks, subsequently maintained by the county. In addition, the county will upgrade the load capacity of the Shiloh Road bridge from the current 6-ton capacity to a maximum load of 20 tons.

The second phase of construction, which will be undertaken by the Corps of Engineers, involves constructing 1,000 feet of new road east of the Burlington Northern Railroad tracks and 2,800 feet of new road south along the landside toe of the Gregory Drainage District levee to complete access to the placement site. The two-lane road will be provided with adequate crushed stone surfacing and fabric stabilizer to maintain the integrity of the sand berm on which it is founded. Approximately 200 feet of crushed stone turnaround will be constructed at the end of the south leg of the access road to allow trucks space to turn around after loading.

In addition to the road construction, the Corps of Engineers also will remove two small culverts (one 6-inch and one 18-inch) where the Shiloh Road crosses over an agricultural drainage slough (which later forms a Palustrine wetland area). These two culverts will be replaced with one 24-inch equalizing culvert to maintain equal water levels on both sides of the road.

#### B. Other Alternatives.

1. No Action. Without the removal of material from the Buzzard Island placement site, there would not be sufficient room for additional dredged material. Thus, in order to prevent additional encroachment on the adjacent bottomland forest, OSIT would probably prohibit further use of the site for placement of dredged material.

2. The South Alignment. Initially, two separate alignments were considered for the construction of the Buzzard Island access road: the North Alignment and the South Alignment. The alternative alignment, which was not chosen, is referred to as the South Alignment. This alignment consists of an east leg along the Fenway Landing access road and a north leg which runs along the landside toe of the Gregory Drainage District levee (plate 2). Favorable characteristics of the South Alignment are that the Fenway Landing access road is in better condition than the Shiloh County Road and that no bridge construction is needed for this alignment. However, the South Alignment is approximately one-fourth mile longer than the North Alignment, resulting in higher construction costs. In addition, the Fenway Road portion of the access is outside of the levee district which makes it subject to regular spring flooding.

3. Barge Loading Facility. Since the majority of interest was focused on the construction of a land-based access to the placement site, construction of a barge loading facility was not chosen as the preferred plan at this time. In addition, the removal of material by barge alone would not be enough to allow continued use of the site. However, one potential user did express further interest in loading barges from this site even without a formal loading facility.

#### IV. Affected Environment.

The project location is in a rural setting within the Gregory Drainage District along both a county road and an existing levee. There are fewer than five homes in the area, and these are used as seasonal dwellings. The land adjacent to the proposed access road is used primarily for agricultural production of row crops.

The local environment affected by the construction of the proposed Buzzard Island access road and subsequent use by the public includes: a cattail marsh adjacent to the north side of the county road portion of the access; an agricultural drainage slough and the associated Palustrine wetland area located at the end of the slough (bordering the west side of the levee portion of the access road); several mature trees (cottonwood, silver maple, and box elder species) and associated understory growth parallel to the road alignment; and the bottomland forest surrounding the actual placement site.

Affected Area and Population Trends. The Buzzard Island placement site is located in Lewis County, Missouri, but is in close proximity to the States of Iowa and Illinois. The study area includes portions of six counties which are primarily agriculturally oriented, but are influenced by the communities of Quincy, Illinois; Keokuk, Iowa; and Canton and LaGrange, Missouri (table EA-1). The area had a combined population of 187,300 in 1985, and growth is expected to continue through 1990 (table EA-1).

#### V. Environmental Impacts of Preferred Action.

The alignment of the proposed access road requires the removal of approximately 12 medium-sized trees (silver maple and cottonwood) and some understory growth lying directly in the alignment of the access road. This removal of several trees during construction will cause a temporary disturbance to the local wildlife population inhabiting the area, but this impact will be minor and have no long-term effect on area wildlife.

Regarding the cattail marsh adjacent to the county road, upgrading and maintenance of the county road will have no effect on this small, but well-established marsh area. The effect on the Palustrine wetland area will be minimal since the portion of the road alignment along the levee will be constructed by upgrading the existing berm of the levee.

TABLE EA-1

Population Trends for Areas  
Bordering Pools 20 and 21 1/ 2/ 3/ 4/ 5/

<u>Area</u>	<u>1980</u>	<u>POPULATION</u> <u>1985</u>	<u>1990</u>	<u>1980-1985</u>	<u>1985-1990</u>
State of Illinois	11,430,600	11,584,900	11,687,700	1.3	0.9
Adams County	71,700	71,700	74,500	0.0	3.9
City of Quincy	42,600	42,900	43,200	0.7	0.7
Hancock County	23,900	23,900	23,600	0.0	-1.3
State of Iowa	2,913,800	2,905,400	2,913,500	-0.3	0.3
Lee County	43,100	42,700	42,600	-0.9	-0.2
City of Keokuk	13,500	13,500	13,500	0.0	0.0
State of Missouri	4,916,700	5,023,700	5,175,500	2.1	3.0
Clark County	8,500	8,700	8,800	2.4	1.1
Lewis County	10,900	11,100	11,300	1.8	1.8
City of Canton	2,400	2,700	2,700	12.5	0.0
City of LaGrange	1,200	1,300	1,400	8.3	7.7
Marion County	28,600	29,200	29,800	2.1	2.1
Six-County Area	186,700	187,300	190,600	0.3	1.8

1/ Claritas, REZIDE, 1980 and 1985, The National Encyclopedia of Residential ZIP Code Demography.

2/ Iowa Development Commission, 1986 Statistical Profile of Iowa.

3/ State of Illinois, Bureau of the Budget, Illinois Population Trends from 1970-2025.

4/ U.S. Department of Commerce, Bureau of the Census, 1980 Census of Population.

5/ U.S. Department of Commerce, Bureau of Economic Analysis, 1985 OBERS BEA Regional Projections, Volume 1, "State Projections to 2035."

Although several trees must be removed for construction of the road, this will allow continued use of the placement site without having to encroach on the surrounding bottomland forest. The end result is a net benefit for the area as a whole, with only minimal impact to the local environment.

A summary of environmental and cultural effects is listed in table EA-2.

A. Air and Noise Quality. The project location is in a rural area where an increase in travel to the placement site will have a minimal effect on existing air and noise levels. The increased noise levels generated by heavy machinery during the construction phase will have a temporary effect on the environment. Increased noise levels after construction could disturb residents at nearby seasonal dwellings. However, because the project area is primarily rural in nature (fewer than five homes are located within one-half mile of the site), it is unlikely that this noise level increase would significantly affect the surrounding population.

B. Water Quality. The preferred plan proposes a land-based access to the placement site which would have no permanent effect on the water quality in the area. Should a barge loading facility be implemented in the future, the effects on water quality will be addressed at that time in accordance with Section 404(b)(1) of the Clean Water Act and the National Environmental Policy Act. However, water quality will be temporarily affected by an increase in turbidity during the placement of one culvert during construction of the access road.

C. Aquatic Community. Impacts to the aquatic community during construction on the Shiloh bridge and placement of culverts through the drainage slough will be minimal and temporary.

D. Terrestrial Habitat and Wildlife. The bottomland forest community is dominated primarily by cottonwood and silver maple tree species with nettles and poison ivy common in understory growth. Terrestrial wildlife is typical of that found elsewhere in the Mississippi River bottomland forests. Common large mammals are white-tailed deer, raccoon, opossum, skunk, gray squirrel, and others. Many species of songbirds are also associated with bottomland forests.

The removal of dredged material will allow continued use of the site without having to encroach on surrounding bottomland forest, thus helping to preserve existing wildlife habitat. However, construction of the access does require removal of a dozen or so medium-sized cottonwood and silver maple trees and some understory brush growing parallel to the alignment. This slight loss of habitat will have no significant long-term impact on the neighboring wildlife populations and only a minor short-term impact during construction.

E. Endangered Species. Table EA-3 lists the Federal and State threatened and endangered species for the State of Missouri. Correspondence with the U.S. Fish and Wildlife Service and the Missouri Department of Conservation under the Fish and Wildlife Coordination Act determined that construction of the access road would have no effect on threatened or endangered species or

TABLE EA-2

Effects of the Preferred Plan on Natural  
and Cultural Resources

<u>Types of Resources</u>	<u>Authorities</u>	<u>Measurement of Effects</u>
Air quality	Clean Air Act, as amended (42 U.S.C. 165h-7, et seq.)	Temporary effect
Areas of par- ticular concern with the coastal zone	Coastal Zone Management Act of 1972, as amended (16 U.S.C. 1451, et seq.)	Not present in planning area
Endangered and threatened species critical habitat	Endangered Species Act of 1973, as amended (16 U.S.C. 1531, et seq.)	No effect
Fish and wildlife habitat	Fish and Wildlife Coordina- tion Act (16 U.S.C. 661, et seq.)	Minimal and temporary
Floodplains	Executive Order 11988, Flood Plain Management	No effect
Historic and cultural properties	National Historic Preserva- tion Act of 1966, as amended (16 U.S.C. 470, et seq.)	No effect
Prime and unique farm- land	CEQ Memorandum of August 1, 1980; Analysis of Impacts on Prime and Unique Agricultural Land in Implementing the National Environmental Policy Act	No effect
Water quality	Clean Water Act of 1977, as amended (33 U.S.C. 1251, et seq.)	Minimal and temporary
Wetland	Executive Order 11990, Pro- tection of Wetlands, Clean Water Act of 1977, as amended (42 U.S.C. 1857h-7, et seq.)	No effect
Wild and scenic rivers	Wild and Scenic Rivers Act, as amended (16 U.S.C. 1271, et seq.)	Not present in planning area

TABLE EA-3

List of Threatened and Endangered SpeciesFederally Protected Species

<u>Classification</u>	<u>Common Name</u>	<u>Scientific Name</u>	<u>Habitat</u>
Endangered	Indiana bat	<u>Myotis sodalis</u>	Caves and riparian habitat
Endangered	Bald eagle	<u>Haliaeetus leucocephalus</u>	Breeding/wintering
Endangered	Higgins' eye pearly mussel	<u>Lampsilis higginsii</u>	Rivers
Endangered	Fat pocketbook pearly mussel	<u>Potamilus capax</u>	Rivers

State Protected Species

<u>Species</u>	<u>Scientific Name</u>	<u>Missouri</u>	<u>Illinois</u>
Indiana bat	<u>Myotis sodalis</u>	Endangered	Endangered
Bald eagle	<u>Haliaeetus leucocephalus</u>	Endangered	Endangered
Western sand darter	<u>Ammocrypta clara</u>	Watch list	-
Pallid shiner	<u>Notropis amnis</u>	Possibly extirpated	-

sensitive communities (see attached correspondence). In addition, the agencies were in favor of implementing the project to remove existing sand from the area and determined that any impact to the surrounding wildlife populations would be minimal and temporary. This coordination also fulfills the compliance requirement of the Endangered Species Act (16 U.S.C. 1531, et seq.).

F. Manmade Resources. The 9-foot river channel is essential to commercial navigation on the Mississippi River. The dredged material removed during routine maintenance of the channel could be considered a manmade resource. The Buzzard Island placement site is presently almost 20 acres in size, and further use will have negative impacts on the local environment. Therefore, removal of material from this site allows beneficial use of a manmade resource by the surrounding communities, while at the same time preventing possible additional negative impacts to the local environment.

G. Aesthetic Values. Aesthetic value of the area should be improved slightly due to the removal of material from the site which is presently 30 feet high in some places.

H. Cultural Resources. A cultural resources reconnaissance survey of the project area was conducted by the Rock Island District archeologist on May 5, 1987. Based on field observations, it was determined that no historic properties were present in the project area. The senior archeologist of the Missouri Department of Conservation concurred with this determination in a letter dated May 26, 1987. Should any alternative other than the preferred alternative be considered for construction, additional coordination will be required.

I. Community Cohesion. Due to the limited area of influence associated with the proposed access road, no significant impacts to community cohesion would result. Land bordering the access route is used primarily for agricultural purposes; fewer than five seasonal or year-round residences are located in the vicinity. Nearly the entire access road would follow existing roadways; the only construction of a new roadway would take place along the Gregory Drainage District levee. The proposed access road would allow the public to remove dredged material from the Buzzard Island placement site.

Since the material would be available to all interested parties free of charge, the area's primary sand and gravel producer is concerned about potential loss of business. Contact with this producer indicated a mixed reaction to the Corps' providing access to the material -- fearing loss of business on one hand, yet also considering acquiring the dredged material for sale to consumers (see attached correspondence).

J. Community or Regional Growth. The provision of a public access route to the Buzzard Island dredged material placement site would result in no direct impacts to community or regional growth. Potential impacts to area population would be related to changes in business and industrial activity.

K. Displacement of People. Construction of the access route would require no residential displacements.

L. Displacement of Farms. No farms would be displaced by the proposed access road. The new roadway would require upgrading of existing roads, but would require no road development on agricultural lands.

M. Property Values and Tax Revenues. No significant impacts on property values or tax revenues in the entire study area would result from the proposed access road. Impacts could be more pronounced for the immediate Missouri shoreline area near the placement site. Approximately five homes are located on the Mississippi shoreline between the proposed access route and the river. Opening the area for public use could diminish property values of these homes; increased noise and heavy equipment activity would make the area less attractive for recreational or other activity. Property tax revenues could be impacted by any change in property values.

Retail tax revenues would be impacted by any change in the volume of sand sold each year. Since the sand would be available to business, industrial, and other interests, changes in retail tax revenues would be dependent on these potential users. Impacts to sales tax revenues likely would not be significant.

N. Public Facilities and Services. Providing access to the Buzzard Island placement site would encourage public use of the dredged material which would permit continued use of this placement site. Access to the area would provide for use of the material and would eliminate the immediate need to develop a new dredged material placement site. Thus, prolonging the use of the Buzzard Island site through removal of material for beneficial use will prevent disruption of wildlife habitat that would result from either the development of a new placement site or continued use of the existing site.

O. Life, Health, and Safety. The proposed access road would have no effect on life, health, or safety conditions in the project vicinity.

P. Employment and Labor Force. Construction of the access road would have limited short-term impacts on employment in the immediate project vicinity.

Q. Business and Industrial Development. During the construction process, any increase in business and industrial activity would not be significant. Increased activity would be attributable to the purchases made for the construction work.

Long-term impacts to business and industrial development would be mixed. The area's primary sand and gravel producer could lose some business as a result of the available free dredged material. However, this producer could obtain free material for sale to consumers, potentially reducing costs while maintaining current markets.

In 1986 sand sold at an average price of \$2.47 per cubic yard in the State of Missouri. Although the dredged material would be available free of charge, some potential users of this material might continue to buy sand from the area quarry since they would have to provide their own equipment and manpower for loading and hauling from the placement site.

The distance the dredged material must be transported is also a limiting factor for its use. The cost of hauling is related to fuel prices, equipment requirements, and manhours involved; thus, economic benefits to the user are usually inversely correlated with distance. The average limiting distance users would be willing to travel to pick up free material is approximately 14 miles (table EA-4).

#### VI. Environmental Impacts of Nonpreferred Alternatives.

A. Alternative (South) Alignment. The environmental impacts of the South Alignment would be very similar to those discussed in the preferred alternative. In either case, the end result is to provide an access to the existing sand pile. However, since this alignment is longer (higher construction costs) and is subject to frequent flooding in the spring months, this alternative is not feasible. If this alternative becomes feasible, additional cultural resource coordination will be required.

B. Barge Loading Facility. Construction of a barge loading facility would require a more detailed analysis of the impacts on the Mississippi River ecosystem as a whole. These impacts include water quality, endangered mussel and fish species, erosion of shoreline, and compatibility with current navigation patterns. If such a facility is proposed in the future, an environmental document will be prepared at that time to consider the impacts of that proposed option.

C. No Action. Should no action be taken on the Buzzard Island placement site, it has been recommended that the site be closed to future placement of dredged material. Thus, a new site would have to be constructed since shoaling in the channel will most likely continue.

#### VII. Probable Adverse Environmental Effects Which Cannot Be Avoided.

No long-term adverse effects are anticipated. The loss of several mature trees and some understory plants will be a minimal adverse effect that is unavoidable, but compensated for by preserving the mature bottomland forest.

TABLE EA-4

DREDGED MATERIAL POTENTIAL BENEFICIAL USERS  
MISSISSIPPI RIVER

Pool	Beneficial User	Potential Beneficial User Data				Is user within indicated travel area for an existing stockpile?		Is user (<10,000 cu. yd./yr. need) within travel area to a chronic cut?		Is user (>10,000 cu. yd./yr. need) within travel area to a chronic cut?	
		River Mile Location	Distance Will Travel (miles)	Potential Need/Yr. (cu. yd.)		Stockpile Name	Distance From Stockpile	Dredge Cut Name	Distance From Cut	Dredge Cut Name	Distance From Cut
11	Dubuque Sand & Gravel (IA)	574.5	7		X						
11	Kowalski-Keifer, Inc. (WI)	614.5	30	X							
12	Horsfield Construction, Inc. (IA)	580.3	30	X							
12	W. C. Stewart Construction (IL)	579.8	40		X						
12	Tachigafrie Excavating (IA)	580.3	5		X						
12/13	Belleve Sand & Gravel (IA)	556.8	5		X						
13	Quality Ready Mix (IL)	537.0	15-20		X						
14	Bob Prophet Construction Co. (IL)	520.3	30		X						
15	Castle Excavation (IA)	488.0	20		X						
15	City of Moline (IL)	486.5	10		X						
15/16	Valley Construction (IL)	481.8	15								
16	Brandt Construction (IL)	481.8	30	X							
19	City of Burlington (IA)	402.5	10	X							
19	Iowa Southern Utilities (IA)	399.4	10	X							
19	Lee County Engineer (IA)	387.7	20	X							
19	Hall Towing Inc. (IA)	382.3	7		X						
19	City of West Burlington (IA)	402.5	50	X							
19/20	Hickey Contracting Co. (IA)	364.0	40	X							
19/20	W. L. Miller Co. (IL)	364.5	5		X						
19/20	City of Keokuk (IA)	364.0	10	X							
20	Iowa Gateway Terminal (IA)	364.0	20		X						
21	City of Canton (MO)	342.3	10	X							
21	Brink Construction (IL)	327.3	7		X						
21	Allicka Construction Co. (IL)	327.3	15		X						

\*A chronic "edge cut" is defined here as a cut which has been dredged 4 times in the past 10 years, or 3 times in the past 5 years, or 2 times in the past 3 years.

VIII. Relationship Between Short-Term Use of Man's Environment and the Maintenance and Enhancement of Long-Term Productivity.

Based on the current dredging plans, the productivity of the Buzzard Island site will be self-sustaining as a beneficial use area. The current stockpile of approximately 700,000 cubic yards of sand will require quite some time to remove, even with the number of potential users currently interested.

IX. Any Irreversible or Irretrievable Commitment of Resources Which Would Be Involved if the Proposed Project Were Implemented.

Fuel consumed, manpower expended, and the commitment of construction materials are considered irretrievable. In addition, the use of the sand, a manmade resource, is also considered irretrievable but is not a limited resource.

X. Relationship of the Proposed Project to Land-Use Plans.

The Buzzard Island site is a historical site for depositing dredged material in the area. By allowing removal of the accumulated material, this site will remain as a potential placement site for future dredged material. In addition to allowing entry to the placement site, the access road will provide a better access to surrounding agricultural fields in the vicinity of the site.

XI. Compliance With Environmental Quality Statutes.

Compliance with WRC-designated environmental statutes that have not been specifically addressed earlier in this report are covered in table EA-5.

XII. Coordination and Public Involvement.

The required coordination for this Environmental Assessment is accomplished by circulating it for review and comment by various individuals and local, State, and Federal agencies, as shown on the distribution list.

TABLE EA-5

Compliance of the Preferred Plan With  
WRC-Designated Environmental Statutes

<u>Federal Policies</u>	<u>Compliance</u>
Archaeological and Historic Preservation Act, 16 U.S.C. 469, et seq.	Full compliance
Clean Air Act, as amended, 42 U.S.C. 165h-7, et seq.	Full compliance
Clean Water Act (Federal Water Pollution Control Act), 33 U.S.C. 1251, et seq.	Full compliance
Coastal Zone Management Act, 16 U.S.C. 1451, et seq.	Not applicable
Endangered Species Act, 16 U.S.C. 1531, et seq.	Full compliance
Estuary Protection Act, 16 U.S.C. 1221, et seq.	Not applicable
Federal Water Project Recreation Act, 16 U.S.C. 460-1(12), et seq.	Full compliance
Fish and Wildlife Coordination Act, 16 U.S.C. 661, et seq.	Full compliance
Land and Water Conservation Fund Act, 16 U.S.C. 4601, et seq.	Full compliance
Marine Protection Research and Sanctuary Act, 33 U.S.C. 1401, et seq.	Not applicable
National Environmental Policy Act, 42 U.S.C. 4321, et seq.	Full compliance
National Historic Preservation Act, 16 U.S.C. 470a, et seq.	Full compliance
Rivers and Harbors Act, 33 U.S.C. 401, et seq.	Full compliance
Watershed Protection and Flood Prevention Act, 16 U.S.C. 1001, et seq.	Full compliance
Wild and Scenic Rivers Act, 16 U.S.C. 1271, et seq.	Not applicable

## FINDING OF NO SIGNIFICANT IMPACT

Having reviewed the information contained in this Environmental Assessment, I find that construction of the Buzzard Island Beneficial Use Area Access Road will have no significant adverse effects on the environment. This project is not a major Federal action and, therefore, preparation of an Environmental Impact Statement (EIS) is not required. This determination may be reevaluated if warranted by later developments.

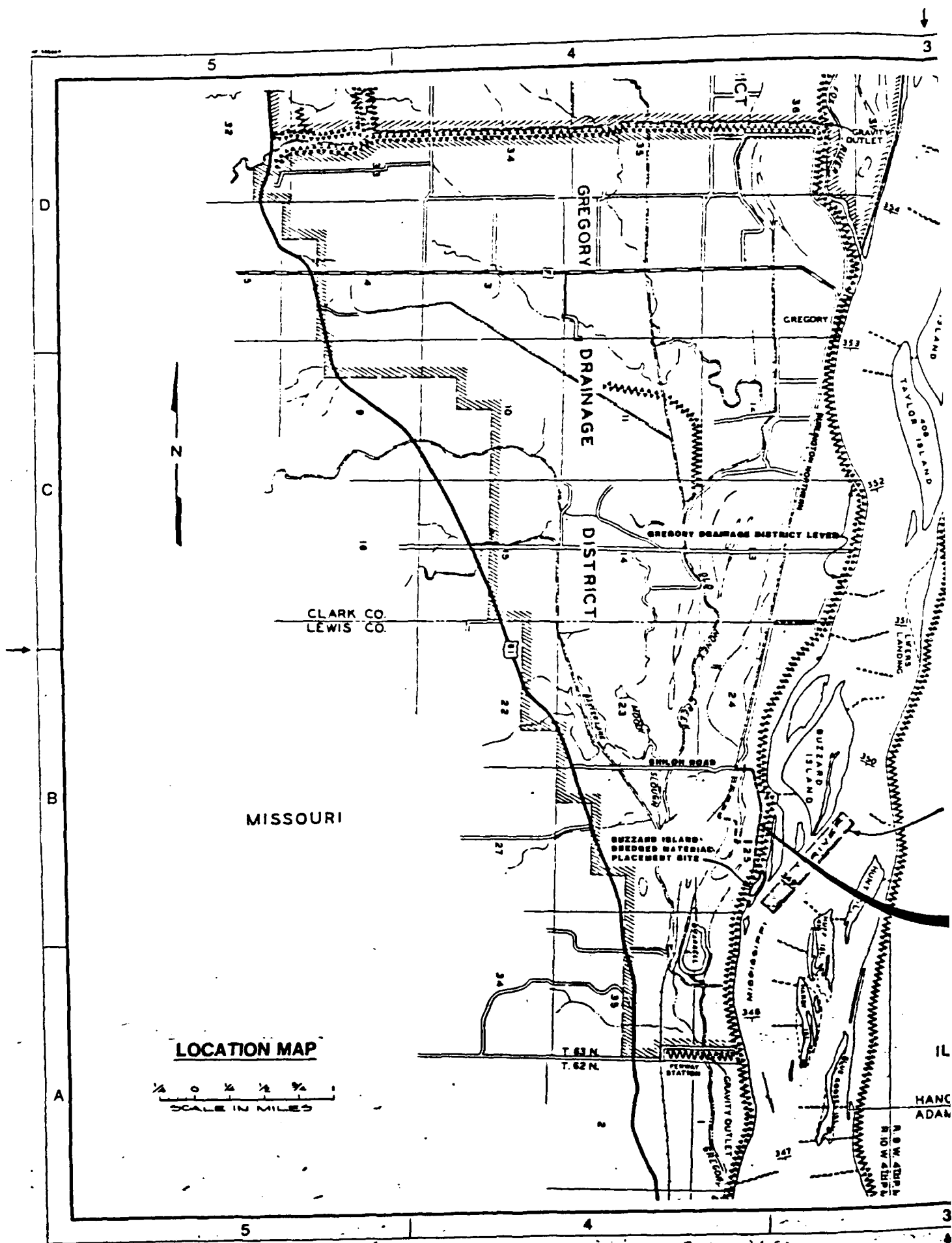
Factors that were considered in making this determination that an EIS was not required are:

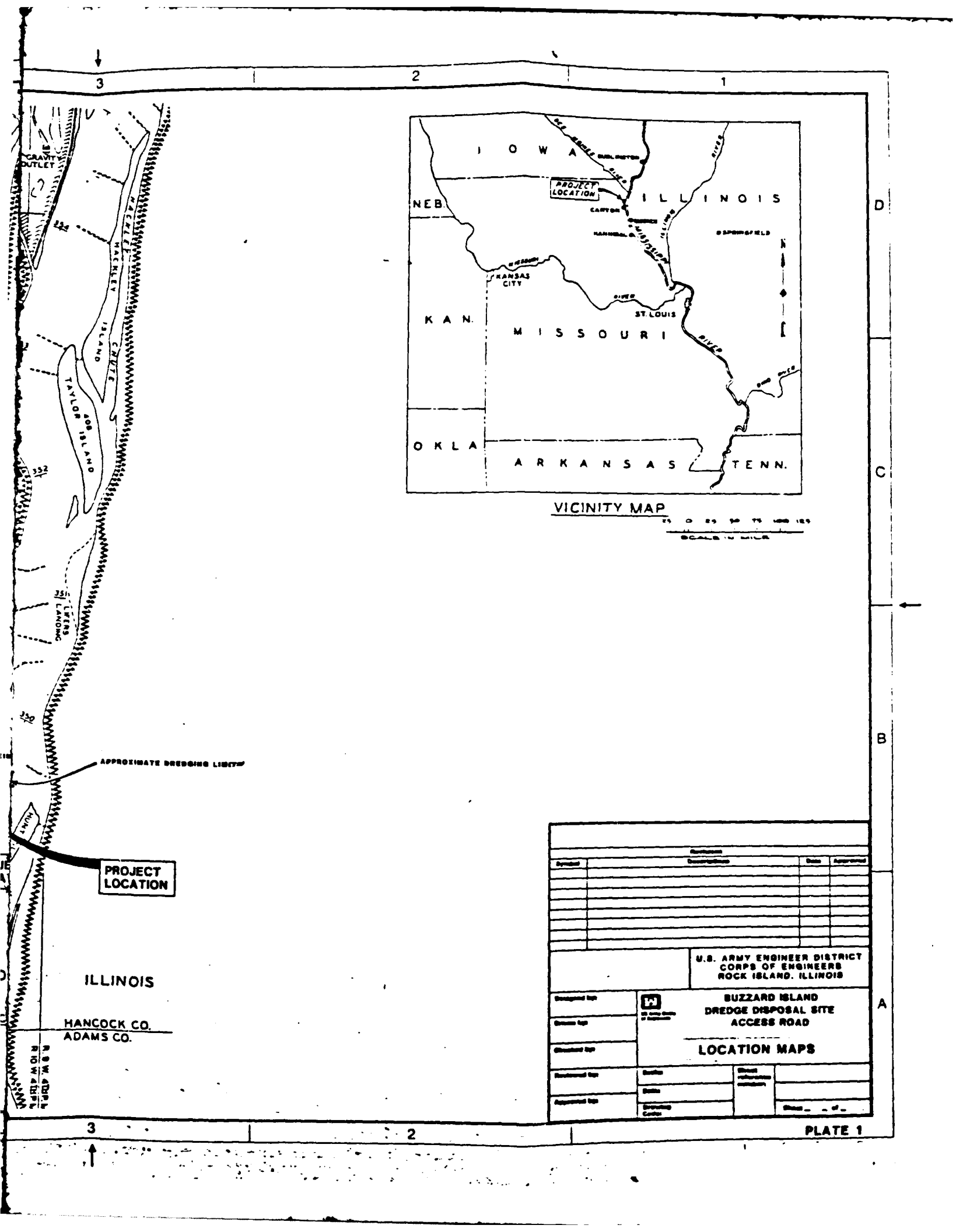
- a. As a beneficial use site, removal of dredged material will allow future use of the site without encroaching on surrounding bottomland forests. Thus, location of a new placement site will not be necessary.
- b. Impacts to local wildlife and aquatic communities will be minimal and temporary.
- c. Existing roadway and levee right-of-way allow for construction and upgrading with a minimum of disturbance to surrounding environment.
- d. Several nearby communities will be able to utilize the dredged material immediately.

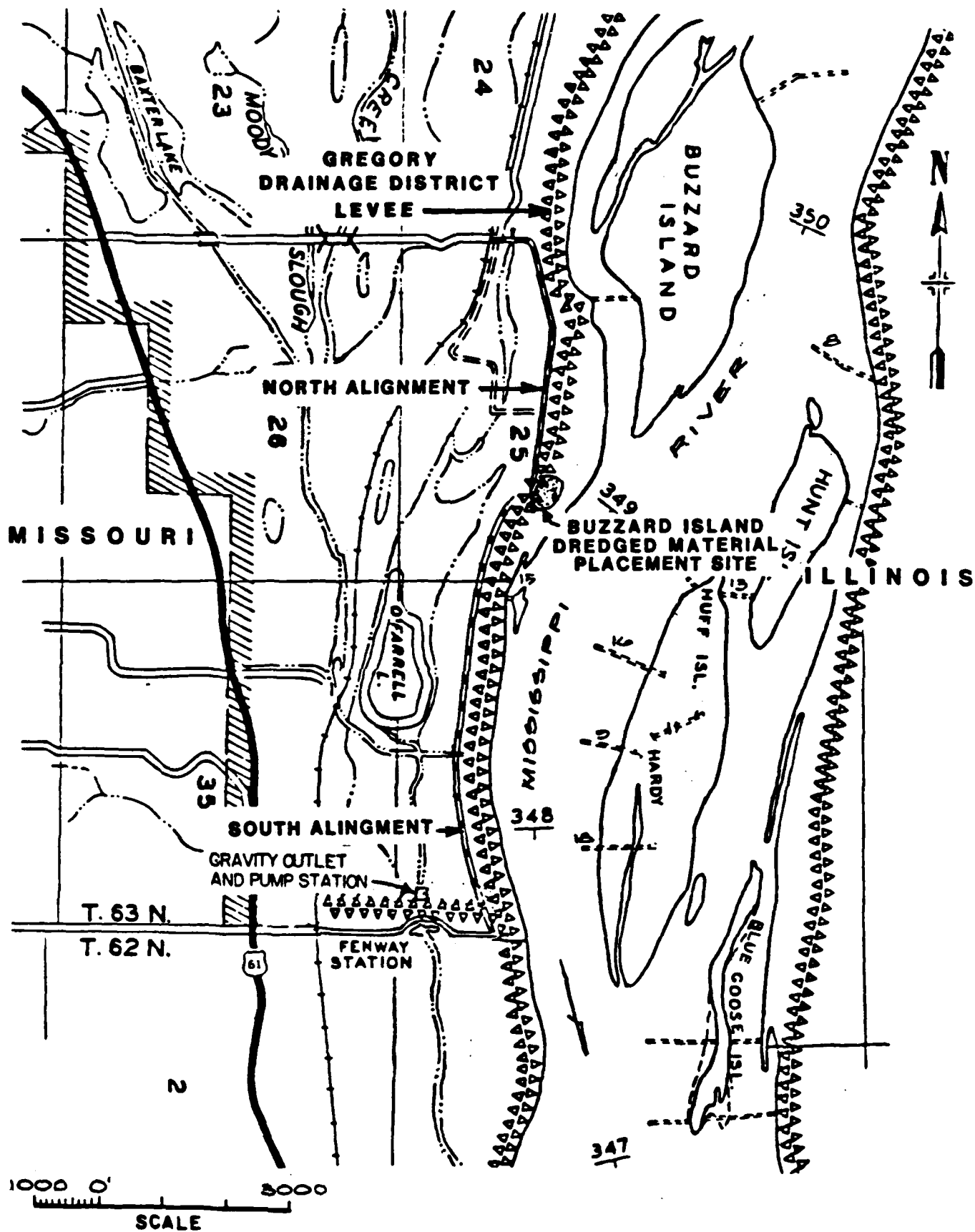
---

Date

Neil A. Smart  
Colonel, U.S. Army  
District Engineer







**ACCESS ROAD  
ALTERNATE ALIGNMENTS  
PLATE**

CORRESPONDENCE

JOHN ASHCROFT  
Governor

FREDERICK A. BRUNNER  
Director



STATE OF MISSOURI  
DEPARTMENT OF NATURAL RESOURCES

DIVISION OF PARKS, RECREATION, AND HISTORIC PRESERVATION

P.O. Box 176  
Jefferson City, MO 65102  
314-751-2479

Division of Energy  
Division of Environmental Quality  
Division of Geology and Land Survey  
Division of Management Services  
Division of Parks, Recreation,  
and Historic Preservation

May 26, 1987

Mr. Dudley M. Hanson, Chief  
Planning Division, Dept. of the Army  
Rock Island District Corps of Engineers  
Clock Tower Building, P.O. Box 2004  
Rock Island, Illinois 61204-2004

RE: Proposed Access Road (COE), Buzzard Island Dredge Disposal Site, Lewis  
County, Missouri

Dear Mr. Hanson:

In response to your letter dated 19 May 1987 concerning the above referenced project, the Historic Preservation Program has reviewed the information provided and has determined that the proposed undertaking should have no effect on any property determined eligible for inclusion in, or listed on, the National Register of Historic Places. Therefore, we have no objections to the initiation of project activities.

However, if the currently defined project area or scope of project-related activities is changed or revised, or cultural materials are encountered during construction, the Missouri Historic Preservation Program must be notified and appropriate information relevant to such changes, revisions, or discoveries be provided for further review and comment, in order to ascertain the need for additional investigations.

If I can be of further assistance, please write or call (314)751-7958.

Sincerely,

DIVISION OF PARKS, RECREATION,  
AND HISTORIC PRESERVATION

  
Michael S. Welchman  
Senior Archaeologist

MSW:jh



# MISSOURI DEPARTMENT OF CONSERVATION

MAILING ADDRESS:  
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Jefferson City, Missouri 65102-0180

STREET LOCATION:  
2901 West Truman Boulevard  
Jefferson City, Missouri

Telephone: 314/751-4115  
JERRY J. PRESLEY, Director

February 9, 1988

Colonel Neil A. Smart  
District Engineer  
Rock Island District, Corps of Engineers  
Clock Tower Building  
Rock Island, Illinois 61201

Attn: Joe Slater

Dear Colonel Smart:

Members of the Department staff have been involved in the development plans to improve existing county and field roads to facilitate removal of the large pile of dredged material adjacent to Buzzard Island. We support this effort and other Rock Island District efforts to provide for beneficial use of dredged material.

A search of available records for endangered species and sensitive communities indicates the following:

Potamilus capax (Fat pocketbook) occurs within 1.0 mile of the proposed road improvement, in the Mississippi River. This mussel is endangered at the state and federal levels. The record is from 1986.

Since this project will improve existing roads in and adjacent to agricultural fields, we do not perceive significant adverse impacts to endangered species or sensitive communities. Sedimentation impacts should be minimized by stabilizing disturbed areas as soon as possible.

If you or your staff have questions or need additional information, please contact William H. Dieffenbach of my staff.

Sincerely,

DAN F. DICKNEITE  
ENVIRONMENTAL ADMINISTRATOR

cc: U. S. Fish and Wildlife Service  
Rock Island, Illinois

## COMMISSION

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Earth City

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Rolla



## United States Department of the Interior

FISH AND WILDLIFE SERVICE

IN REPLY REFER TO:

ROCK ISLAND FIELD OFFICE (ES)

1830 Second Avenue, Second Floor

Rock Island, Illinois 61201

COM: 309/793-5800

FTS: 386-5800

February 11, 1988

Colonel Neil A. Smart  
District Engineer  
U.S. Army Engineer District  
Rock Island  
Clock Tower Building, P.O. Box 2004  
Rock Island, Illinois 61204-2004

Dear Colonel Smart:

This responds to the request made by your Environmental Analysis Section staff for our comments regarding the improvement of an access road to the Buzzard Island dredged material stockpile site in Clark County, Missouri, Mississippi River mile 349.0, Pool 20. The purpose of this project is to halt further destruction of bottomland forested habitat from disposal of dredged material and to promote beneficial use. We fully support this project proposal and its long-range benefits to the environment.

The existing stockpile site covers about 11.5 acres of former bottomland forested habitat. It is surrounded by the Mississippi River to the east, bottomland forest to the north and south and an agricultural levee to the west. The access road improvement would follow the existing road along the agricultural field side the levee and then would cross over the levee to the stockpile. No trees will be cut and no wetlands will be filled. We anticipate no adverse impacts to fish and wildlife resources resulting from the construction of the access road improvement.

By improving access to the stockpile, large quantities of sand are to be removed by commercial users. This removal will allow capacity for disposal of dredged material from future channel maintenance events without further encroachment into the remaining forested bottomlands.

### Endangered Species

To facilitate compliance with Section 7(c) of the Endangered Species Act of 1973, as amended, Federal agencies are required to obtain from the Fish and Wildlife Service information concerning

any species, listed or proposed to be listed, which may be present in the area of a proposed action. Therefore, we are furnishing you the following list of species which may be present in the concerned area:

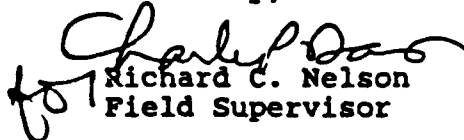
<u>Classification</u>	<u>Common Name</u>	<u>Scientific Name</u>	<u>Habitat</u>
Endangered	Indiana bat	<u>Myotis Sodalis</u>	Caves and Riparian Habitat
Endangered	Bald eagle	<u>Haliaeetus</u> <u>leucocephalus</u>	Breeding
Endangered	Fat Pocketbook Pearly Mussel	<u>Potamilus capax</u>	Rivers
Endangered	Higgins' Eye Pearly Mussel	<u>Lampsilis higginsii</u>	Rivers

This project area was inspected by a biologist of the U.S. Fish and Wildlife Service and it was determined no suitable habitat for endangered species existed.

This precludes the need for further action on this project as required under Section 7 of the Endangered Species Act of 1973, as amended. Should this project be modified or new information indicate endangered species may be affected, consultation should be initiated.

This letter provides comment under the authority of and in accordance with provisions of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. et seq.); the National Environmental Policy Act of 1969, as amended; and the Endangered Species Act of 1973, as amended.

Sincerely,

  
Richard C. Nelson  
Field Supervisor

cc: Missouri DOC (Farabee, Dieffenbach)



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July 9, 1986

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Dudley M. Hanson, P.E.  
Chief, Planning Division  
Department of the Army  
Rock Island District Corps of Engineers  
Clock Tower Building  
P.O. Box 2004  
Rock Island, Illinois 61204-2004

Dear Mr. Hanson:

We are in receipt of a letter you mailed on June 20, 1986, to "Potential Users of Dredged Material". In the letter, you are offering to give away, free of charge, sand at several locations along the Mississippi River.

Members of the Iowa Limestone Producers Association very strongly object to competing with U.S. government departments and agencies such as the Corps of Engineers. The membership of this association is primarily made up of local companies whose family members have spent a lifetime and invested millions of dollars in developing the aggregate industry.

In order for us to extract and sell a similar product, our members must have permits from several agencies such as the Iowa Department of Natural Resources, Iowa Department of Agriculture, Federal Mine Safety and Health Administration, E.P.A., and Corps of Engineers. This all costs us money. You don't have to answer to a single one of the regulators mentioned above. Your costs are all covered by taxpayer dollars and your offer threatens to take business from local aggregate producers and eliminate some more precious jobs.

We realize the river channel needs to be dredged in order to maintain the shipping lanes that are vital to us all. In years past, the Corps of Engineers has disposed of this material by filling in parks and other low areas along the Mississippi River.

Mr. Dudley M. Hanson  
July 9, 1986  
Page 2

Our industry certainly has no objection to this worthy cause, but when you offer the material for such uses as "construction fill, winter ice control, bituminous mix, concrete production, and recreational uses", we see this as a flagrant violation of the free enterprise system and ask that you rescind this offer immediatly.

Thank you for your understanding and cooperation.

Most sincerely,

IOWA LIMESTONE PRODUCERS ASSOCIATION, INC.

A handwritten signature in cursive script, appearing to read "Ken McNichols".

Kenneth W. McNichols  
Executive Director

KWM/bb

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